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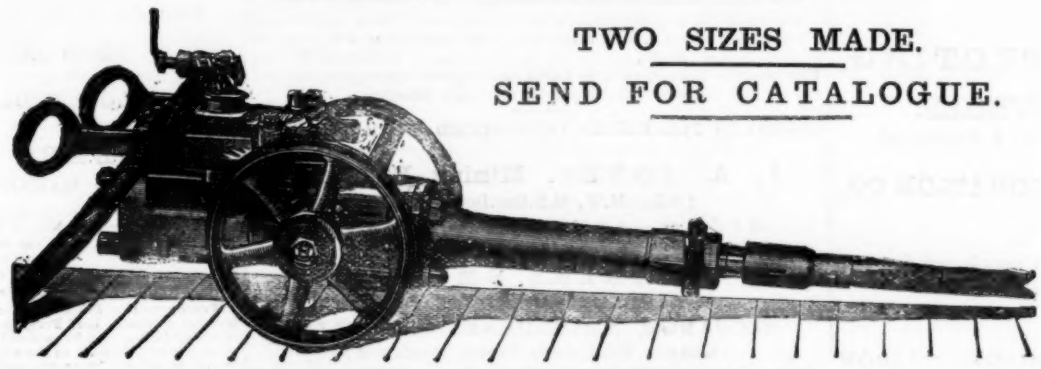

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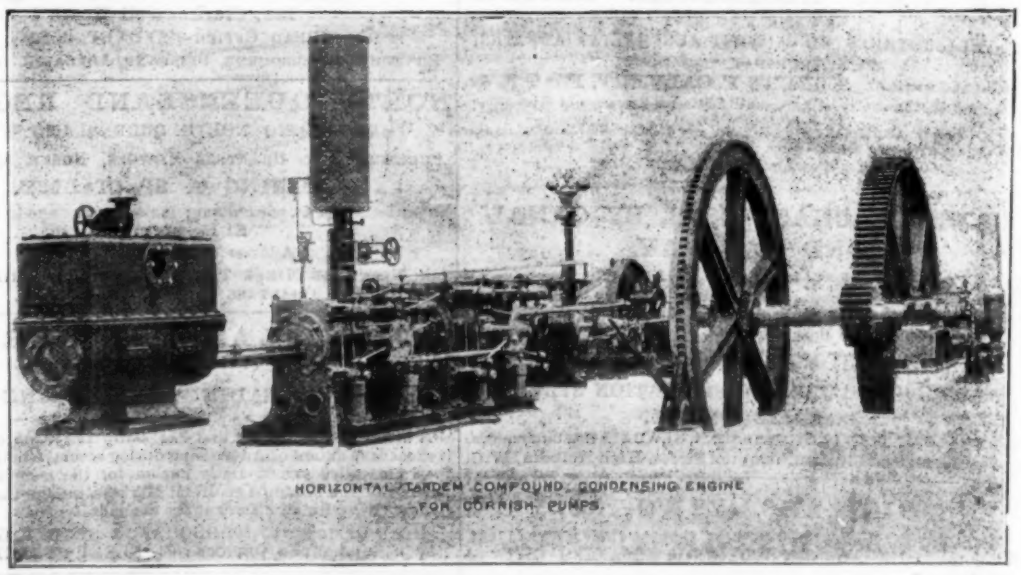

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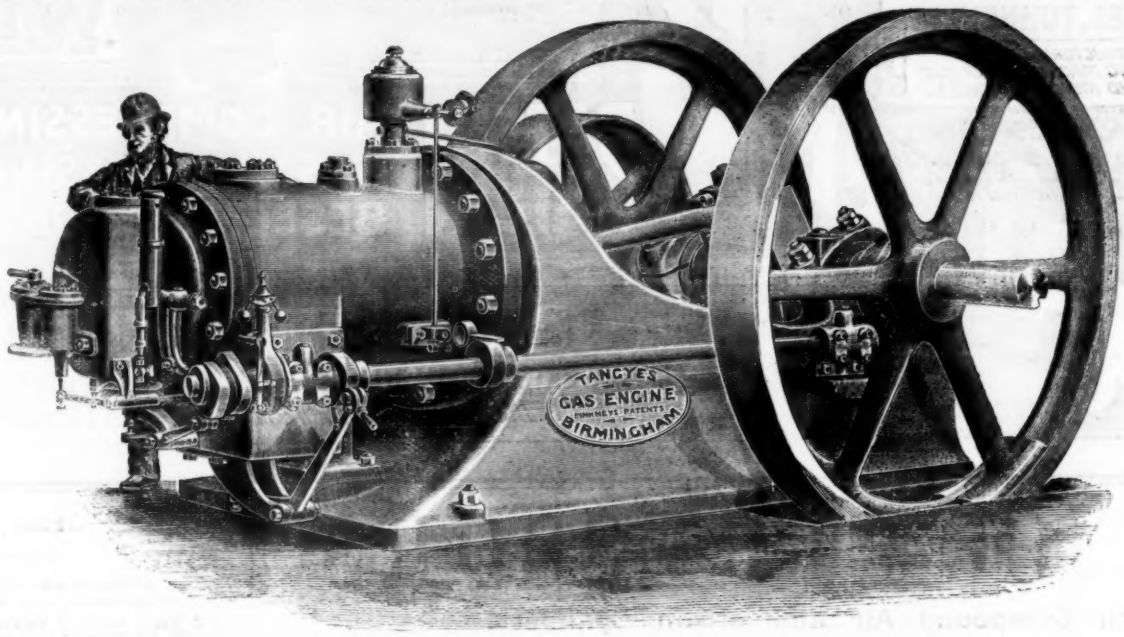

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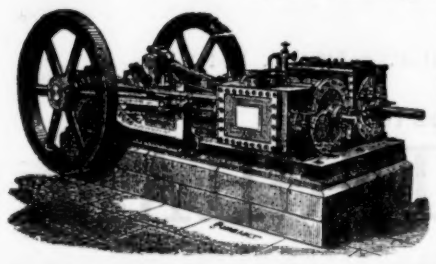

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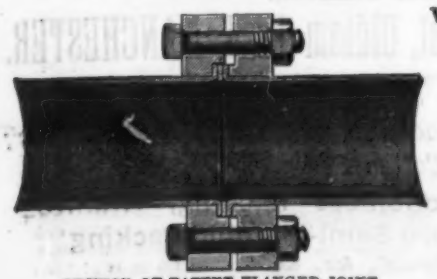

SECTION OF PATENT FLANGED JOINT

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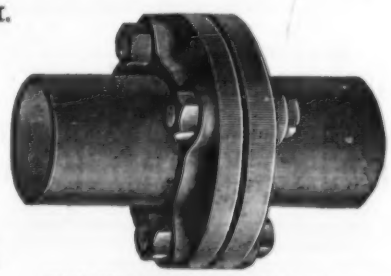
STEEL & IRON PLATES FOR BOILERS, BRIDGES, &c.



PLAN OF PATENT FLANGED JOINT.

Head Offices: 41, OSWALD STREET, GLASGOW.

HOLMAN Bros., Camborne, Cornwall.

ESTABLISHED 1839

Patentees and Sole Makers of

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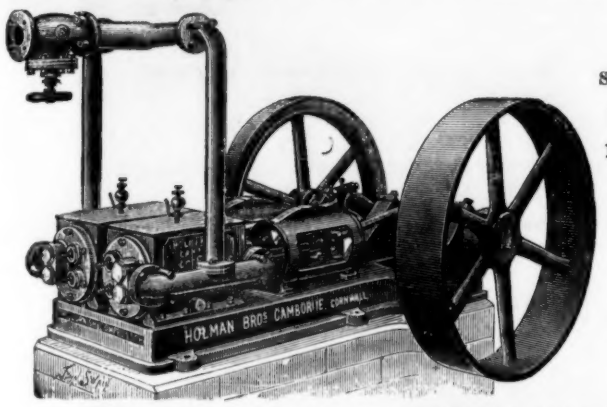


FIRST SILVER MEDAL, Highest Award, Mining Institute Contest, 1881. — Three Makers represented.

FIRST SILVER MEDAL Highest Award, Royal Cornwall Polytechnic Jubilee Exhibition Contest, 1882. — Five Makers represented.

AWARDED SILVER MEDAL INTERNATIONAL INVENTIONS EXHIBITION, 1885.

RECORD OF WORK DONE

At Botallack Mine, St. Just, Cornwall, **TWELVE MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** drove, sunk, and rose **288 FATHOMS** in **12 MONTHS**, equal to five times the Speed of Hand Labour.

At Wheal Grenville Mine, Camborne, Cornwall, **SIX MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** started from the **150 FATHOMS** level and put up in **EIGHT MONTHS** a **11 FEET** by **5 FEET PERPENDICULAR RISE 46 FATHOMS 5 FEET 6 INCHES**, and about midway drove **1 FATHOM 5 FT.** No communication of any kind was effected until holing to the Shaft brought down from surface.

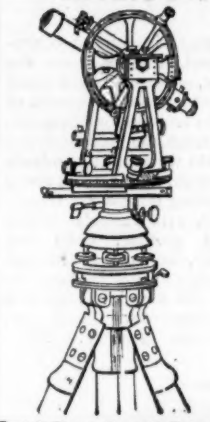
Estimates for ROCK BORING PLANT and GENERAL MINING MACHINERY on Application.

London Representative: Mr. E. M. TOUZEAU, Leadenhall Buildings, London, E.C.

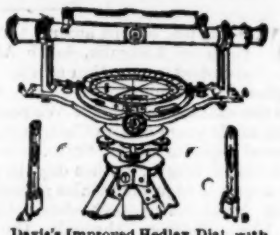
JOHN DAVIS AND SON,

ALL SAINTS WORKS, DERBY;

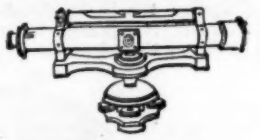
118, NEWGATE STREET, LONDON.



Transit Theodolite with Patent Hoffman Tripod Head, and Trough Compass.



Davis's Improved Hedley Dial, with Telescope and Sights Interchangeable and Patent Hoffman Tripod Head.



Dumpy Level with Hoffman Patent Tripod Head.

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AND ALL DESCRIPTIONS OF MATHEMATICAL AND MINING SURVEYING INSTRUMENTS.

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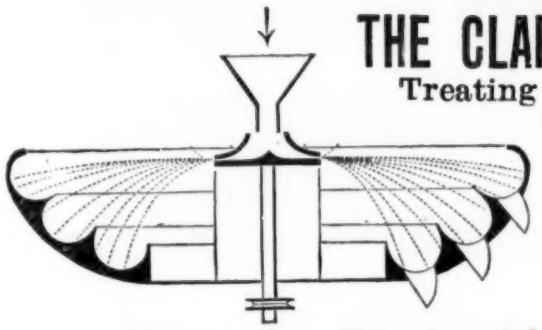
SECTION (A) MATHEMATICAL DEPARTMENT AND SAFETY LAMPS
SECTION (B) ELECTRICAL DEPARTMENT.

Gold Medal Awarded Mining Exhibition, 1890.
"THE ENGINEERING TELEGRAPH CODE USED."

HENDERSON'S RAPID TRAVERSER.

Highest Award at the Mining Exhibition, 1890.

DRY CONCENTRATION.



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Homogeneous substances, such as Emery, Glass, Sand, Sulphur, Black Lead, &c., graded according to size in one operation.

Terms for Experimental Concentration, and for Supply of Machines on Application.

NEW PATENTS.

LIST of APPLICATIONS for New Patents relating to Mining Metallurgical, Engineering, Railway and kindred matters, specially compiled from official sources for the "Mining Journal" by Messrs Rayner and Company, Patent Agents, 27, Chancery Lane, London, W.C., who will forward all information regarding them free on application.

15784 Johannes Immel, 89, Komurandantenstrasse, Berlin.—Combined heating furnace for mill bars, sheet iron, and steel.—August 20.

15788 Thomas Firth, 31, Mellish Street West, Ferry Road, Millwall, London.—Improvements in rotary engines.—August 20.

15847 Henry Livingstone Sulman, 323, High Holborn, London.—Improvements in or relating to the precipitation of precious metals contained in solutions.—August 20.

15886 Joseph Platt Hall, 17, St. Ann's Square, Manchester.—An improved governor for engines worked by steam, compressed air, or other expansive fluid.—August 21.

15941 John Edlington Chaster, 191, Fleet Street, London.—Improvements in the manufacture of cyanides.—August 21.

15964 Alfred Ernest Old, 7, Cherry Street, Birmingham.—Improvements in machines for the separation of metals, ores, and the like.—August 22.

15967 Louis Ferguson, Gowans, and Edmund Gardner Appleby, 70, Deansgate, Manchester.—Improvements in or applicable to appliances for treating crushed mineral ores.—August 22.

16002 Henry Alonzo House, Henry Alonzo House, jun., and Robert Pultoul Symons, 115, Cannon Street, London.—Improvements in apparatus for refining metals by electrolysis.—August 22.

16071 Henry Robert Angel, 7, St. Helen's Place, London.—Improvements in the extraction of lead, silver, and gold contained in sulphide of zinc. August 23.

16081 Bruno Lebrun, 45, Southampton Buildings, Chancery Lane, London.—Improvements in and relating to steam engines.—August 23.

16136 Miles Settle, 4, St. Ann's Square, Manchester.—Improvements in lime cartridges for breaking down coal, rock, and other minerals.—August 24.

16156 Bruno Lebrun, 45, Southampton Buildings, Chancery Lane, London.—Improvements in and relating to electric winding engines, locomotives and other electric motors, chiefly designed for use in mines.—August 24.

16169 John James Brown, 40 Chancery Lane, London.—Improvements in tubular boilers.—August 24.

16173 Francois Louis Lesage and Adrien Frederick Beuillaud, 6, Lord street, Liverpool.—Improvements in the method of and apparatus for obtaining metallic zinc from zinc ores.—August 28.

16194 Israel Morris, Bloxwich, Walsall.—An improvement in vertical steam boilers.—August 25.

16199 James Jones Meldrum, Thomas Frederick Meldrum, and John Welsley Meldrum, 15, Water Street, Liverpool.—Improvements in or connected with supplying air to furnaces, and in steam jet blowing or forcing apparatus.—August 25.

16253 Henry Harris Lake, 45, Southampton Buildings, Chancery Lane, London.—Improvements relating to the manufacture of formates, and of cyanides from the same.—August 25.

SPECIFICATIONS PUBLISHED.

14,834, Gartrell furnaces, 1893; 14,880, Braithwaite and others, chucks for drilling and boring, &c.; 16,382, Marchant, steam engines, 1893; 16,760, Gordon, A. and J. cyanides, 1893; 16,848, Heslop, tub for collieries, mines, &c., 1893; 17,086, Hall, steam generator, 1893; 17,198, Paddon, furnaces, 1893.

The above specifications published may be had of Messrs. Rayner and Company, 37, Chancery Lane, London, at 10d. each including postage.

CONTRACTS OPEN:

FOR MINE, QUARRY, RAILWAY, AND ENGINEERING WORK, STORES, &c.

"*" *We shall be obliged by being promptly placed in possession of particulars regarding contracts open for competition, and of the results of successful tenders. In the latter case contract prices should be given.*

The date given is that by which tenders must be delivered, in nearly all cases further information can be obtained on application at the addresses given. In applying for such the name of "The Mining Journal" should be mentioned as the original source of the information, concerning which further particulars are required.

HOME CONTRACTS.

Settling Tanks, September 8 (*Lower Darwen, Lancs.*).—For the construction of settling tanks at Scotshaw Brook Paper Mill, Lower Darwen. Plans and particulars from Mr. James Wolstenholme, 14a, Victoria Street, Blackburn.

Sulphate Plant, September 8 (*Stockport*).—For the supply and erection complete of a sulphate plant at their Portwood Works, for the Gas Committee. Specifications and all information can be obtained from the engineer, Mr. S. Meunier, Millgate Works, Stockport. Tenders, endorsed "Sulphate Plant," and addressed to the Chairman of the Gas Committee, must be sent in by September 8.

Railing, September 10 (*Doncaster*).—For 6700 lineal feet of wrought iron unclimbable railing, 4 feet 6 inches in height; also for seven field gates and one stile for the new road across the Town Field, for the Corporation of Doncaster. Plans may be seen, and specification and form of tender obtained, on application to the Borough Surveyor, 3, Priory Place, Doncaster.

Borehole, September 10 (*Eastbourne, near Midhurst, Sussex*).—For sinking and lining with wrought-iron capwelded tubing a 9-inch trial borehole in the sub-division of the lower greensand, known as the Hythe beds, for the Midhurst Union Rural Sanitary Authority. Plans and specifications with forms of tender to be seen on application at the office of the Authority's Surveyor, Langford House, Midhurst.

C.I. Pipes, September 11 (*Swansea*).—For supply of between 12,000 and 13,000 tons of c.i. pipes and castings to be delivered at various railway stations in the Swansea Valley, for the Swansea Town Council. Printed copies of specification and particulars can be obtained from the Waterworks Engineer, Guildhall, Swansea, on payment of one guinea, which will be refunded on receipt of a *bona fide* tender. Sealed tenders to be delivered, accompanied by a cheque for £50, as a guarantee of the *bona fides* of the tender.

Coal, September 18 (*Workington*).—For supplying and delivering at the London and North Western Railway Station, Workington, of about 6000 tons of gas coal for the gas committee. Tenders to Mr. John Warwick, Town Clerk, Town Hall, Workington.

Coal, September 24 (*London*).—Tenders for supply of coke, required for the Cape Government Railways for the year 1895, will be received by the Agent-General for the Cape of Good Hope, 112, Victoria Street, S.W. Forms of tender and conditions can be obtained from the Agent-General's Office.

Sinking Shaft (*Ossett*).—For sinking shaft to the top and low Haigh Moor seams. Tenders to Victoria Mills, Ossett, Yorks.

Steam Boilers (*Wakefield*).—Tenders required by Messrs. McPhail and Simpsons, engineers, for the supply of seven steam boilers, Lancashire type. Applications to Messrs. McPhail and Simpsons, Calder Works, Wakefield.

Railway (*London*).—For the construction of a short line of railway on the the outskirts of London, including the supply of all materials. Lithographed plan and sections and specification will be supplied on written application to Mr. R. F. Anderson, A.M.I.C.E., Ryde, Isle of Wight, on payment of £1 10s., which will be returned to all except the successful contractor.

OUR INQUIRY COLUMN.

TO CORRESPONDENTS.

Correspondents will please take note that all communications will in future be answered in this column and not through the medium of the post. All questions and replies should be accompanied by the name and address of the writer.

REPLIES.

JACOB.—There are no dealings in these shares.

R. J. S.—Not at present. It would be very unwise.

N. J.—The final call has yet to be made.

HANTS.—We do not think you would do much harm in purchasing a small quantity.

W. P.—It is very difficult to advise you on such a delicate matter.

W. H.—We think there is a good prospect for the shares.

G. G.—Leave them alone.

AND.—At Eyre and Spottiswoode, New-street Square. Price, 2d., we believe.

PRUDENS.—(1.) Sell.—(2 and 3.) Sell on a fair rise.—(4.) We hear nothing of the company.—(5.) We are ourselves doubtful of the value of this property.

ELECTRIC MUFFLES.—From a casual observation which occurs in a recent paper communicated to the Paris Academy of Science by G. Charpy, and dealing with the allotropic changes of iron under the influence of heat, we gather that an electric muffle is now a fairly common adjunct to the metallurgist's laboratory—at least in France. The advantages of electrical resistance in bringing metals to high temperatures which are evenly distributed, and can be elevated gradually, are now recognised in many industries, and are destined to be much more widely exploited. An electric muffle at once suggests the adaptation of the principle of resistance to the "firing" of pottery. When valuable porcelain is "fired" in a kiln heated by means of fuel many expensive precautions have to be taken so as to prevent the delicate glazes and colours from being impaired by the products of combustion. Small gas kilns and muffles have found a ready sale because the products of combustion of gas are not quite so injurious to porcelain as are those of fuel. Now, since a muffle can be heated to any degree of temperature possible by other methods by means of electrical resistance, and since no fumes or injurious products whatever accompany this use of electricity, it seems to be obvious that electric muffles, and even kilns, would be a success. A Yankee once patented an electrical brick kiln, but this is not quite the sort of thing that is likely to succeed. If small gas kilns and muffles are commercially possible, and an improvement on older methods, surely electric pottery muffles are feasible and would be welcomed.—*Electric Review.*

A BOLD MINING ENGINEERING WORK.

ENTERPRISE IN THE UNITED STATES.

FEW people, except among those engaged in mining operations in Australia, South Africa, and America, have the remotest conception of the energy, enterprise, and novel engineering developed in prosecuting enterprises in search of and the extraction of gold. We read of the tremendous preparations made years ago, in California, to extract the gold from the alluvial deposits of that State. Aqueducts were built hundreds of miles in length, ditches dug in the earth, and carried along the slopes of high mountains; flumes crossing gorges on trussle work hundreds of feet above the bed, and tunnels driven a like distance through the solid granite, until the water, high above the alluvial grounds, is carried through iron pipes, and precipitated through monitors with tremendous force against the banks, disintegrating the toughest material and dissolving it in passage through long lines of wooden sluices, and collecting the released gold particles with mercury. More

FIG. 1.—IMPROVED DERRICK.

than 6000 miles of such aqueducts have been constructed in California alone, at a cost of more than £3,000,000 sterling, many of them requiring the highest engineering skill in their construction. But it was reserved for an engineer in Colorado to surpass all others in the boldness, and even audacity of the undertaking, and the skill in overcoming natural difficulties in procuring a permanent supply of water to work alluvial deposits in that State, as our readers will perceive in perusing this article.

More than three years ago mention was made, and illustrations were given in the American mining journals, of the beginning of a most difficult piece of engineering work on the Dolores River in Colorado, U.S.A. Valuable concessions of auriferous gravels were secured that lay in bodies at the lower end of a great canon or gorge on the Dolores River, and extended six miles below in the shape of bars, high above the river bed. These gravels, although richly impregnated with the precious metal, were entirely valueless, unless large bodies of water were procured at an elevation above the bars, sufficient to enable it to be projected with great force from the monitors. The supply of water could be obtained, only from a point on the river, about 13½ miles above—ordinarily a small undertaking for the pioneer hydraulic miners of California. But the engineering difficulties

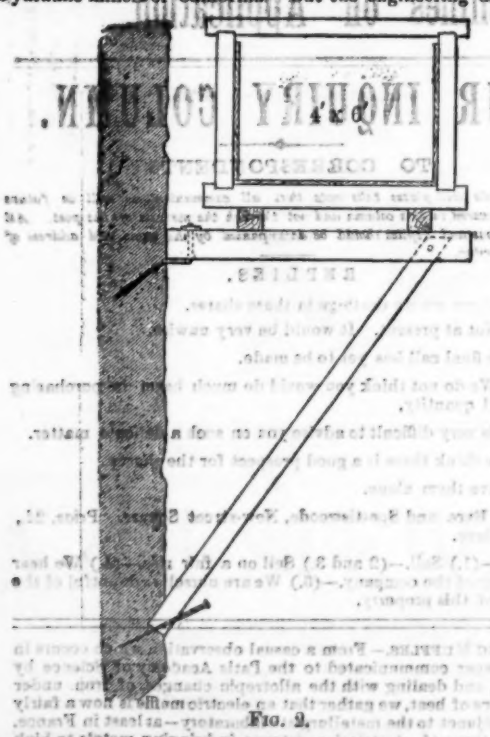


FIG. 2.

to be overcome were almost appalling. For a distance of 6½ miles the river was narrowed by rock cliffs that rose on either side from 500 to 1000 feet or more, with no breaks or benches on which the usual wooden flume could be laid. The depth and turbulence of the rivers made it an impossibility to use iron pipes. The water must be carried along the face of the cliffs, or not carried at all. How to construct the aqueduct along their face was the problem that must be solved by the owners of the concession. Could it be done? If so, at what cost? It must be done, or their property was valueless. Nothing but the great known richness of the places prevented a collapse of the proposition. The engineers began their work of establishing and making the grade in 1889, and the construction was begun the next year, and prosecuted nearly to completion up to the beginning of the great money panic in America.

A few days ago we were introduced to Captain N. P. Turner, the engineer in charge of this construction, and had a pleasant chat with him on the general American mining outlook, and particularly as to the aqueduct, of which he seems to be justly proud, as it is seemingly the only work of the kind on the globe.

In answer to a question, Captain Turner said—"The aqueduct is so near completion that a small supply of water is running through the flume upon the upper end of the concessions. There are, however, 2½ miles more of comparatively easy ditch work to be built before active hydraulic operations can begin. The owners have a perpetual water right for 5000 inches, and are now running a small stream through this ditch and flume, only to keep everything in a good state of preservation."

"Will you, as a matter of interest to our mining readers, give me a description of the manner of construction, and the difficulties you encountered?"

"Well, a description of the difficulties to be overcome is very graphically described by a correspondent of a Denver paper, who visited the work while construction was going on. This is what he says, and in the main his observations and impressions are correct:—'On the Dolores River, 4 miles below its junction

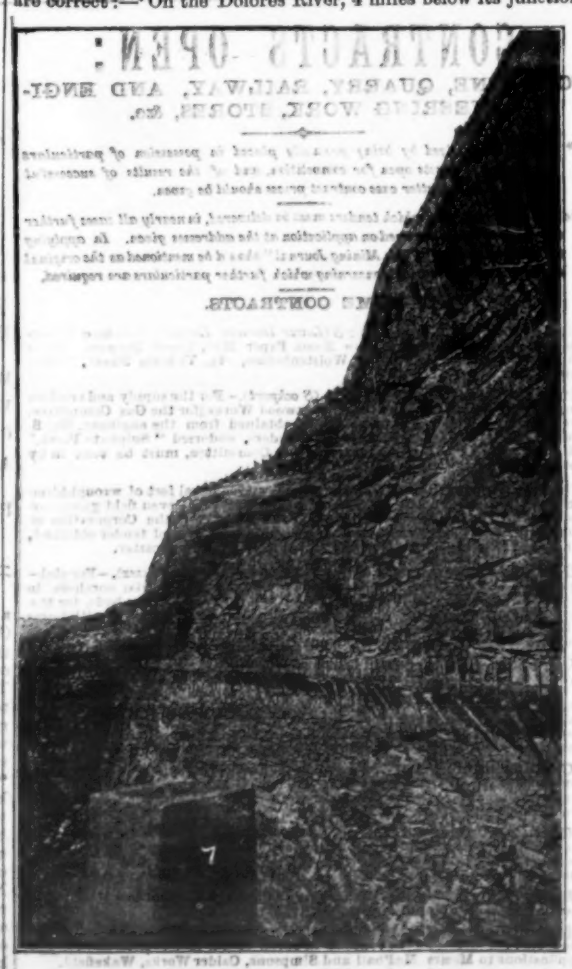


FIG. 5.

with the San Miguel, in Montrose county, Colorado, a company is operating a great enterprise. It is an illustration of the daring genius of man in quest of fortune. The works are established 68 miles from Placerville, the nearest railway point on the Rio Grande Southern, and 65 miles from Whitewater, on the Denver and Rio Grande, east of Grand Junction. The company's ground extends 6½ miles on the Dolores River, and consists of alluvial bars, some of them from 50 to 100 feet above the bed of the stream. To successfully mine them it was necessary to tap the river 13 miles above, and convey the water to

FIG. 3.

them by ditch and flume. This flume is one of the marvels of modern engineering. For 6½ miles it is suspended from an overhanging cliff, 100 to 150 feet above the river, and 250 to 500 feet beneath the summit. In places the cliff hangs over at an angle of more than 15°, and water falling from its brink strikes on the

FIG. 4.

opposite side of the river, 100 yards from its base. A wagon road has been constructed along the cliff above, from which men were let down several hundred feet, where they were suspended 150 feet above the river until they could drill into the rock and establish themselves at that dizzy height. In places, the wagon road on top is a notch cut into the vertical rock, and from it men, lumber, and iron were lowered the desired distance by ropes and pullies swung under the overhanging cliff, and the work of building the flume prosecuted in that manner for hundreds of feet. It required strong arms, steady nerves, and level heads to perform the great feat. The flume is 6 feet wide and 4 feet high, and the ditch is 10 feet wide at the base. Supports of the flume, suspended from drill holes in the cliff, are of the very best Swedish iron, and 49,000 lbs. were used in the structure. The entire enterprise required an aggregate of 1,800,000 feet of lumber, and two years' time have been consumed in carrying the work to completion. Delays were occasioned for the want of lumbet and there were other unavoidable hindrances. The flume has a capacity of 80,000,000 gallons of water in 24 hours. The grade of the flume is 6 feet 10 inches to the mile, and the pressure of the water upon the "giant" at the mine is an interesting feature of hydraulic mining. This hanging flume has not its equal in the world as an appliance for placer mining, and the conditions are such that it will never be duplicated. Much of the distance, where it runs under the over-hanging cliff, the sun's rays never penetrate, and the breath of a storm is never felt. It is styled 'Bancroft's gorge,' and its frowning battlements stand without a parallel in any country. Underneath and attached to the flume a walk way is suspended, and the steady nerved can traverse its entire length, with the water gliding above him and the river tumbling 100 to 150 feet below. Although two years were consumed in building the flume, ditch and wagon road, less than $100,000 were expended. Time cut the prominent figure in the accomplishment of the great feat. The works are near the upper end of the company's property, and what are termed 'the old workings' are three miles lower down the river. Here considerable work has been done in a primitive way, and the gravel yielded about 38½ cents per cubic yard. It is estimated the entire ground of the present company will run that well or better, and its gold-bearing gravel beds are estimated at 25,000,000 cubic yards.'"

"The engineering difficulties," said Mr. Turner, "were great and numerous. The grade was first to be established and marked out as far as possible. That was no small job. No matter what difficulties or obstructions were encountered, the flume must keep exactly on the grade. Any considerable deviation was fatal. The work was difficult, slow, and perilous—hanging over the rivers in the air. The plan practised on one or two occasions in California of lowering men from above to do the work, and move from bent to bent, was impracticable for these cliffs, the greater part of the route leaning over the base. The problem was to devise some plan by which the work could be carried on from ends and stations. One great trouble was that the lumber and other supplies came from points down the river. This forced the cutting of a road, in many places hewn out of the solid rocks, for long distances. Over this road the lumber was hauled to lowering stations, and passed down to

the workmen, on the grade on the cliffs below. From these stations gangs constructed each way until they met the constructions from other stations. In one instance the stations were 6900 feet apart, all the cliffs between overhanging so much that a perpendicular from above would be 50 or more feet from the grade line. The plan adopted by me for constructing along the precipices was something on the plan used in the construction of the cantilever bridges. Fig. 1 will give a fair idea of this simple and effective apparatus:—

As the work is finished from one bent or support to another the machine is pushed forward the measured distance, and made fast and secure to the completed portion of the flume. On the platforms, as shown in the drawing, the men stand and drill the holes in the rock, in which the anchor irons are inserted, holding

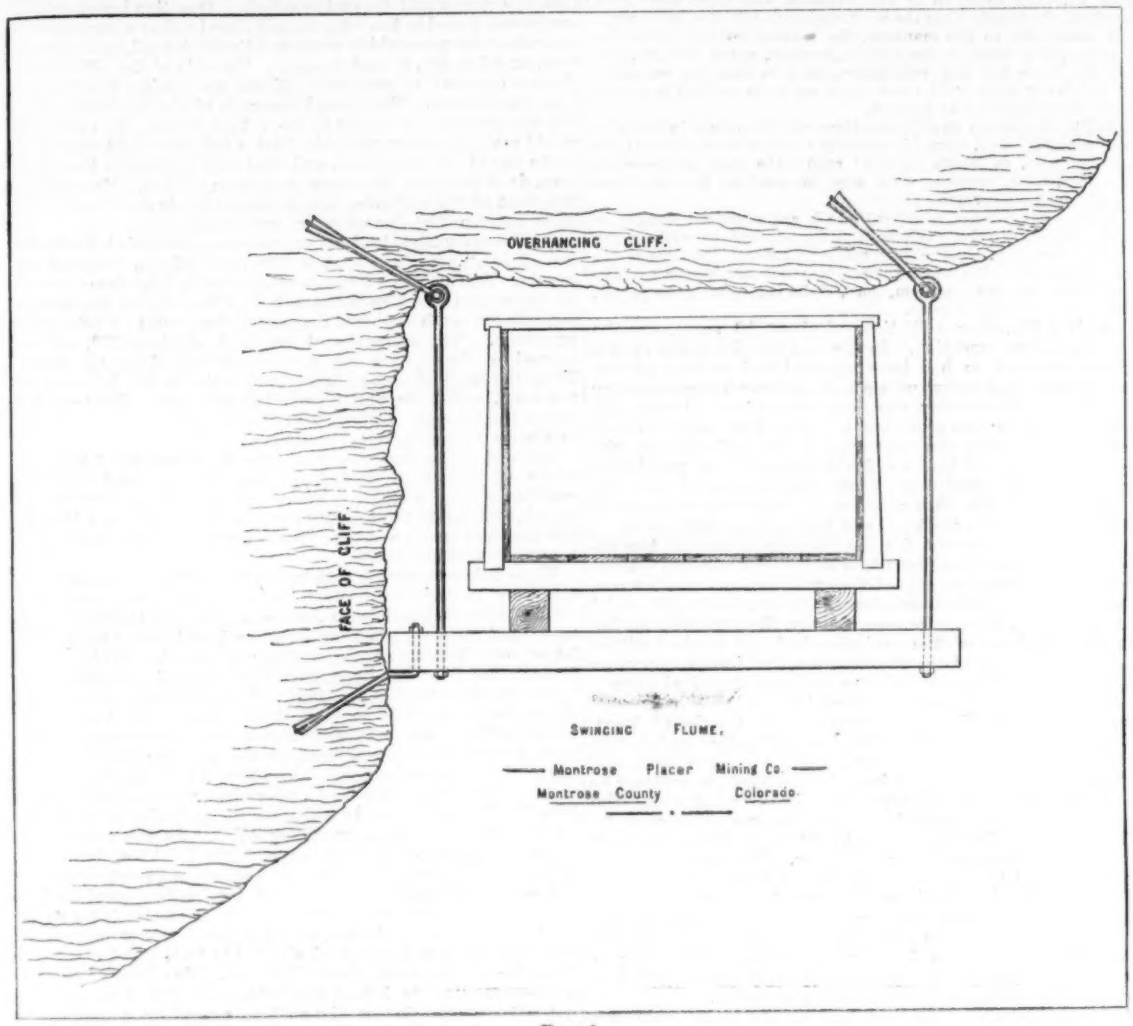


FIG. 6.

and supporting the timber securely upon which the flume is laid and supported. Fig. 2 shows the plan of anchoring in a rough way.

It will be interesting to mining men and constructing engineers to know that these bents were placed 8 feet apart, and flumes 4 by 6 feet wide. The cap is pine lumber 8 by 8 feet, and the brace the same. The iron anchor is of best Swedish round iron 1¼ size, bent to turn from the hole in the rock, and 8 inches from the end, bent again to pass through the timbers. It is not necessary to bolt or secure it on top of timbers. The flume when complete and full of water will give a dead weight on each bent of 11,000 pounds. The timbers and iron have a calculated holding power of 80,000 pounds, and nearly every bent has been tested above that. The floor is of 2 inch lumber, and the sides 1¼ inch, stringers 4 by 8, and top braces 3 by 5.

Fig. 3 shows a section of the flume over a gully complete except top brans.

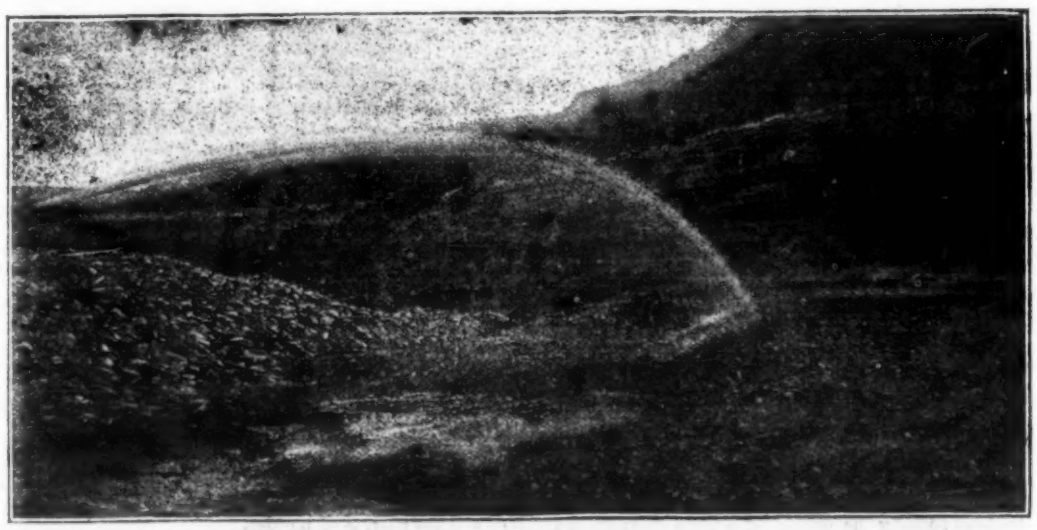
Fig. 4 shows a section of the flume. On the curve as seen it hangs 180 feet above the river below. Fig. 5 is a long view of about one mile as seen on the face of a cliff 1300 feet high. The river 160 feet below. "These views, however, do not give an idea of the most difficult portion of the construction. The cliffs, in places, lean irregularly over from their base at the river bed. Fig. 6 shows at one point the difficulty encountered. For a distance of 900 feet the flume hung over the river, and at one point over the opposite bank. Where the over hanging roof came too low, it was blasted out to make room for the flume. That you can see was about as dangerous and difficult a job as my men had to encounter, suspended out in the air, hanging to the rock roof like a fly holds to the ceiling."

"In hanging a weight as great as your flume is when full of water is there not danger that by disintegration of the rock the irons will give way, causing constant repair?"

"Not the least in the world. The walls are of a very hard sandstone and quartzite. Indeed, it is absolutely essential that your irons should be in firm solid rock—rock not readily subject to disintegration by heat, cold, and water. Otherwise the holdings would give way, entailing costly and continuous repairs. I considered this so important that in construction I made a personal examination of every hole drilled in the rock so as to be sure it was in the right sort of rock. So far as this work is concerned, it is safe for many years to come, more than the life of the alluvial beds of gravel. I would say this to any one contemplating a work of this sort for either mining or agricultural purposes—1st, requisite solid, firm rock for the anchor irons; 2nd, the best tough iron—Swedish preferred; 3rd, the best and most durable lumbers for the flumes—pitch pine preferred."

"How long would such a flume last? What is its life?"

"Certainly 20 years. But even if a plank should rot and become worthless a new one could be put in, and thereby extend the life indefinitely. Although more costly than the ordinary bank or trussle flume, it is not so much subject to damage. A break would, of course, be confined to that caused by a falling rock, and would not extend beyond the bent struck. Repairs can be made very quickly. A few rocks have fallen since the beginning of construction, and has furnished this information."



MONITOR AT WORK.

"You speak of such an aqueduct being more expensive than the ordinary aqueduct; do you object to giving the cost figures of this one."

"By no means. In comparison with the usual bench flume it is expensive. But it is not nearly so costly as a person looking at it hanging upon the face of perpendicular rock walls would suppose. The time consumed in construction is what counts against it. Of a necessity the work is slow, painstaking, and tedious, and at very many points the engineering difficulties met with were exceedingly perplexing. This aqueduct has cost $173,000 or £34,000 about, and it will require about £5000 to completely finish it to where the water is now running. In addition it will require £8000 or £9000 more to complete 2¼ miles down the river to the point originally contemplated and surveyed."

"What is the outlook for mining in America?"

"At present prices for the white metal, I don't believe there is a score of silver mines in the United States that will pay with silver at 65 cents per ounce, but with gold mining it is different. In Colorado the most sanguine predict that in the near future the value of the gold output will make up for the loss in silver. The same is claimed for California, New Mexico, Arizona, and Montana. Since the passage of the Tariff Bill new life seems to be infused into all lines of business, and I am sanguine enough to believe that we are entering upon a season, and a long one, of great prosperity."

Captain Turner, we may conclude, is one of the early pioneer miners of California, going there at an early age and learning the mining business—from the pan up to the modern improvements. He was born in Gallatin, Tennessee, U.S.A., returned south during the Civil War, and was an officer during that fierce struggle in the Confederate Army, serving under Generals McGruder, Kirby Smith, Lane, and Hood. Since the close of the war he has followed his old business of mining and mining engineering. This is his first visit to England and London. He is immensely pleased with England, and "why should I not be?" he said; "my ancestors on both sides were English and Scotch and my wife's ancestors on both sides were English."

MINING NOTES FROM JOHANNESBURG.

By H. BUSH, M.E.

Champ d'Or.

This mine continues to open up well, and development is being kept well ahead of the mill; the output will be maintained, and dividends should shortly be declared at the rate of at least 50 per cent. per annum. At this rate the shares are absurdly cheap, and should go over £5 before the end of the year. I strongly recommend these shares as an investment.

Champ d'Or Deep.

This mine is looking well, is well developed, and when the battery starts, which I am positively informed will be on the 1st October, should give a particularly good account of itself. It has been decided to borrow £60,000, which is ample to give the mine a good start, and does away with the idea of reconstruction. These shares should be watched for a rise.

Langlaagte United.

This mine is improving every week; assays from 4 to 5 ounces are being obtained from the south reef. When the battery starts in about six months, the returns should be 9 dwts. from the plates and 3½ dwts. from cyanide.

United Main

is improving in appearance, and at present prices looks like a six years' purchase.

Henry Nourse.

The future prospects of this mine are very good, and when the new 40 stamp battery is started the expense of working should be considerably reduced. There will not be any dividends for fully nine months, and at the present price of shares (56s.), the dividends should equal a five years' purchase. These shares are good buying—about £3.

City and Suburban.

will last about 27 years, and should pay 100 per cent. in dividends each year, so that the purchasers at the price of £14 are likely to get returned in dividends £27 per share in as many years. I do not consider these shares, particularly cheap as a mining spec. It is said allotments are worth £20,000, and that there are fully 4,000,000 tons of ore in the mine.

Comet

is improving with development, and with the 40 stamp mill at work will be one of the leading mines, and show large profits.

East Rand Proprietary

looking better as development work proceeds. These shares are not dear at 13s.

New Kleinfontein.

Average assay from reef 2 feet thick 20 dwts. The returns should improve, and I expect the shares will go to 40s.

George and May.

The average of free gold is only about 5 dwts., and the reefs patchy. I do not consider these shares cheap at par.

Buffelsdoorn.

Development work is being pushed along, and well ahead of the mill. Good outputs will be maintained, and dividends shortly declared. These shares will have a big rise, and at the present price—28s.—are absurdly cheap. I strongly advise buying.

New Chimes

continues to develop well. Dividends will be maintained, and still strongly advise buying at £2.

Spes Bona.

Should the reconstruction be carried through on a sound basis, with sufficient working capital, and a change of management on this side, I look upon the shares as one of the best purchases in the market. There is good gold in the mine, and the ore will improve in depth. Watch this property carefully, and if reconstruction is satisfactory, secure all the shares you can at the present low prices.

Alexandra Estates.

This magnificent property is looking well, and I strongly recommend a purchase at once, as I anticipate a big jump in the shares.

May Consolidated.

As this mine is now reconstructed, with ample working capital, and the old shares guaranteed at 9s. per share, it is not unlikely that there will be an upward move in this stock.

Louis d'Or.

There is nothing to warrant a rise in these shares, as the mine is of no value. I strongly advise leaving them severely alone.

BRITISH GUIANA GOLD INDUSTRY.—The amount of gold entered at the Custom House, Georgetown, Demerara, on the 8th August, for shipment by the R.M.S. *Solent* which sailed on the 9th inst., was 5403 ounces 12 dwts. 9 grains to the value of $90,022, an increase in the previous shipment of 3983 ounces 4 dwts. 9 grains to the value of $70,807. With this addition the total output for the year amounts to 68,014 ounces 8 dwts. 8 grains to the value of $1,196,355·63. The following is the return of gold entered at the office of the Department of Mines, for the week ending 4th August, 1894, and the amounts of royalty paid thereon:—

	Amounts. Ozs.	dwts.	grs.		Royalty. $.	c.
Barima	473	13	13	....	426	30
Cuyuni	596	18	6	....	537	24
Conawarook	658	13	17	....	592	81
Essequebo	284	13	23	....	256	22
Potaro	562	4	1	....	505	96
Total	2576	3	12	....	2318	53

For the week ending August 11th:—

	Amounts. Ozs.	dwts.	grs.		Royalty. $.	c.
Barima	377	13	22	....	339	91
Barama	64	4	3	....	57	80
Cuyuni	334	11	13	....	301	11
Puruni	214	5	12	....	192	85
Groete Creek	13	16	23	....	12	47
Conawarook	480	6	3	....	432	25
Essequebo	36	6	17	....	32	70
Potaro	292	7	9	....	263	11
Total	1813	12	4	....	1632	20

EXPLOSIONS IN NOVA SCOTIAN COAL MINES.*

By EDWIN GILPIN, Jun., A.M., F.G.S., F.R.S.C., &c.,
Deputy Commissioner and Inspector of Mines.

At present coal mining is carried on in Nova Scotia in three widely separated districts. The geological horizon however of all is the same, the middle or productive division of the carboniferous. The coals from these districts vary somewhat in their general character. The Cape Breton seams are enclosed in strata holding many beds of sandstone with shales, arenaceous and argillaceous, presumably in large part formed from the re-worked beds of the adjoining millstone grit. The measures are usually presented at easy angles, and free from faults. In Pictou county the beds are thick, heavily inclined, frequently faulted, and at points associated with a great thickness of shale, carbonaceous, and occasionally somewhat bituminous. In a part of the Pictou district these shales attain a thickness of about 500 feet. In the Cumberland district the natural sections of the Joggins present long continued alternating deposition of shale and sandstone, with strata dipping at moderate angles, and not notably faulted. At Springhill, some 18 miles away, the same measures assume high angles, and are disturbed by heavy faults.

Broadly speaking, the Cape Breton coals are the most bituminous, followed by the Cumberland, and then by the Pictou coals. The coals of the two latter districts are rather of the free-burning type, although in some cases coking, but not as in the case of the Cape Breton coals almost invariably coking and adapted for gas-making.

The generally higher percentage of ash in the Pictou and Cumberland coals may be connected with the presence of the included beds of shale already referred to, as compared with the small ash percentages of the Cape Breton coals associated with a larger proportion of sandstone beds. The lesser thickness of the Cape Breton coal measures and the more bituminous nature of the coals may be contrasted with the free-burning characteristics of the western coal included in measures of much greater thickness.

There have been a number of cases of ignition of gas in Cape Breton, only one of which would be classed as an explosion, the remainder being of trifling amounts due to small local collections of gas or to remissness in sweeping the workings thoroughly with the air.

In Pictou county the chief coal mining interest centres around the main seam which lies at an angle of about 17°, and is bedded in the great mass of shales already referred to. The comparatively open character of the coal, lying in dry surroundings, and broken by numerous faults, has made it a gas drainage channel for a large area. This constant exudation of gas from the outcrop of the seam, some 40 feet in thickness, is reported to have been long known in Indian tradition, and at a distant date the ignition of the gas has caused a local fusion of a large body of shale overlying part of its outcrop. The word Pictou is stated to be the Indian equivalent for explosion, and may be connected with this fire. The gas exuding under the still water of the river crossing its outcrop could be ignited. Under these circumstances it will be seen that the operations in this seam begun in 1827 by miners accustomed to the thin seams of the North of England were attended with unusual difficulties. Little reliable information can now be secured as to the cause of the early explosions and fires in the Albion mines.

I append a copy of the special rules in force at these mines in the year 1840, which are of interest as showing a state of affairs in contrast to the practice of the present day, and as showing that then, as now, the use of gunpowder was intimately connected with fire.

Special Rules in Force in Pictou County 54 years ago (1840).—Instructions.

Rule 1.—The overman, and at least one of his deputies or assistants, shall examine all the boards and other working places every morning before the colliers go down. They shall meet the colliers and other workmen at the bottom of the shaft, and if they have found any gas or other cause of danger in any of the boards, shall caution the colliers belonging to such boards, and give them such instructions as they deem necessary.

Rule 2.—Whilst the pit is at work an overman or deputy shall always be present at each face of the works—viz., one on the north and one on the south side, so that in case of an alarm of fire or any other accident the overman or deputy shall always be at hand or within call.

Rule 3.—When the day's work is finished the overman or his deputies shall remain in the mines for the purpose of going through every board and carefully examining them after the colliers have left, so that no blower or gas may be left burning, or any fire concealed amongst the fallen coal.

Rule 4.—Every board shall be furnished with a fire bucket marked with the number of the board, a coarse bag for beating out gas, and a tub or open-headed cask to contain 40 or 50 gallons of water. The fire bucket and the bag shall be in charge of the colliers of each board, who shall pay for or replace them if lost.

Rule 5.—Every panel, consisting of six boards, shall be furnished with a small cannon, which shall be kept at some convenient spot in the lowest board. The overman and deputies shall keep the cannon clean and dry and ready for use. They shall also keep the tubs constantly full of water in each board.

Rule 6.—Every board shall at all times be furnished with a safety lamp, which shall be examined by the overman at least twice a week, and in case of any injury being done thereto, more than common wear, the cost of the lamp shall be charged to the colliers, in whose care it is placed.

Rule 7.—Any collier meeting with a cutter or fissure which yields gas, or with anything unusual in his board, shall immediately report the same to the overman or deputy.

Rule 8.—No collier shall be allowed to put in more than one shot or blast at a time, into any bench or fall, without permission from the overman.

Rule 9.—After blasting either a fall or bench the coal shall be turned back so that no fire may be concealed amongst the loose coal, and before the colliers leave their boards they shall be careful that no blowers or gas are left burning.

Rule 10.—No collier shall work in any fiery board unless there are other colliers working in the adjoining boards at the same time.

Rule 11.—The coal shall not be blasted or a naked light used on any pretence whatever in any board or working place in which the overman has forbidden gunpowder or naked lights to be used.

Rule 12.—Every person employed in the pits on passing through any air-door or trap-door shall always close it after him.

Rule 13.—No person shall unscrew his safety lamp where such are used) excepting when and where he is ordered or directed to do so by the overman or his deputy.

Rule 14.—When a blower or body of gas is fired by a shot or otherwise, which cannot be at once extinguished by the ordinary means, notice shall be sent without delay to the overman or deputy; and in the meantime the colliers from the adjoining boards shall be called in to give assistance.

Rule 15.—On the arrival of an overman or deputy at the fire, all the colliers and other persons who may be present or sent for shall act under his orders, and use every exertion to carry them into effect.

Rule 16.—The extinguishing engine shall be kept in a proper house near the pit top, and a bell of not less than 28 lbs. weight shall be hung upon the pit frames at No. 1 shaft, with a rope leading to the bottom of the shaft, for the purpose of making signals from below without loss of time.

Rule 17.—The overman or deputy on his arrival at a fire shall, if he considers it necessary, cause the bell to be rung for the extinguishing engine, and to give notice to the manager, or deputies, or other persons who may be on the surface, whose duty it is to be present, that they may immediately go down.

Rule 18.—In all cases of fire a most determined effort must be made with the extinguishing engine; beyond this it is impossible to frame any rules that will apply generally. The manager and his assistants must then decide what further measures to adopt.

Rule 19.—The overman or the deputies who shall have gone through all the boards after the workmen have left the mine shall report personally to the manager, the general state of the works, and particularly whether the cannon, buckets, water tubs, &c., are all in readiness for any emergency, and in case the manager, shall be absent they shall enter their report in writing in a book kept in the office for that purpose.

Rule 20.—No deputy shall at any time whilst on duty in the pits, during working hours, leave his appointed station until relieved by another deputy, to whom he shall report the state of the work under his charge, together with any instructions he may have received from the overman.

Rule 21.—At all times, whether there is any apparent danger or not, the foregoing rules shall be strictly adhered to, without the slightest relaxation, their object being to protect the lives of the workmen as well as the works themselves; and any person neglecting, or in any way evading them, shall, if the manager thinks proper, be dismissed from the service.

The Ford Pit, after a lifetime of about 10 years, was the scene of a violent explosion. In this case the side of the pit the explosion occurred in had been reported as free from all but traces of gas at one or two points up to an hour before the entry of the colliers (the testing was done with Clanny lamps, and the faces dated by the examiners). The first explosion took place at six o'clock in the morning, and blew off the fan drift cover. The rescue of bodies and the restoration of ventilation were successfully carried on when the presence of fire was detected, and shortly after a series of explosions rendered it necessary to close the shaft and seal the landings with water.

All attempts to account for the immediate cause of the explosion are necessarily conjectual, as all were lost who had entered the section that was the seat of the explosion, and the fire prevented a complete exploration after the first explosion. The chief points, however, that were observed by the exploring parties were that the flame of the explosion had not reached within several hundred feet of the shaft bottom, that immense volumes of dust had been blown towards the shaft and deposited on each side of the shaft. It appeared that the explosion had passed along a level to the dip of the wagon road at the shaft bottom, broken the back of the lamp cabin, and had ignited coal dust at the open light always kept there, killed the lamp man, and showed traces of an explosion back to the shaft, or contrary to the direction the explosive wave had originally come from. The shaft and approaches were all wet, and gas was unknown in its vicinity. At a distance of about 300 yards from the shaft bottom the workings were dry and dusty. There appears to be little doubt that this explosion originated from a shot fired by the fireman shortly after the pit began to work; that it was largely assisted by dust, that on arriving at the wet ground near the shaft bottom no signs of fire were visible on boards, canvas, &c., and that the finer particles of dust coming in contact with the open flame at the lamp cabin about 100 feet from the shaft caused a slight secondary explosion.

The local nature of the explosion at the lamp cabin was corroborated by the evidence of the man wounded, the position of the broken stoppings, and the fact that the stables near the pit bottom in the first explosion showed no signs of flame. A short time ago the pit was pumped out and attempts made to reopen it, but outbreaks of spontaneous combustion in the old workings have led to a temporary cessation of the work.

At the Intercolonial Colliery during the latter part of the year 1892 a tunnel, 1000 feet long, was driven from the 3200 feet level in the main seam to cut the underlying or deep seam. The explosive used was roburite, and no difficulties were experienced until the lower part of the face of the tunnel struck the top of the seam when the heavy feeders of gas were met. Two shot holes were fired in the rock preparatory to entering the tunnel in the seam. The shots were fired together by electricity, a sharp explosion took place, followed by the ignition of the feeders. The coal took fire, and after efforts were unsuccessfully made to put out the fire, dams were built, and work soon after resumed. Such enquiry as could be made showed that the shots were properly tamped, &c. It would appear that as the shots had not a solid backing of rock, they blew out and fired gas. The shot firer had reported the place fit to fire shots in. The Commission appointed some time before by the Government of Nova Scotia to enquire into the question of explosions reported that the precautions usually adopted in regard to testing for gas when gunpowder is used should not be omitted in the case of roburite or acadia flameless explosive (a local explosive possessing a high degree of safety). In this case, considering that a large amount of gas was continually being evolved, it would have been more in accordance with the spirit of the report of the Commission not to have used any explosive. The instructive fact remains that the roburite fired under apparently normal conditions ignited gas. The manager of the mine states that this explosive has been largely used by him, and has given general satisfaction. In this connection the deputy inspector for the Pictou district reports in the same year that flames were seen by a number of parties from both these explosives.

It may be mentioned that the tunnel was dry, and the strata were composed of fireclay and blue shale, and that dust played no part in the explosions. After the face was recovered the seam was crosscut, and as the drainage of gas was very heavy it was allowed to stand pending the drivage at a place downhill from the crop workings.

This seam was the seat of a very unusual explosion on August 8, 1893. A small mine had been in operation for some years, and dip works were being extended on the pitch of the seam to meet the tunnel already referred to as the seat of an explosion caused by roburite. Owing to unusually dry weather the supply of water for the colliery boilers grew scanty. First, the working of the mine was abandoned, and then, as the supply of water grew smaller, the steam was shut off the Schiele fan, and recourse had to natural ventilation. This was, of course, not counted on as effective, as the seam was very gassy, but no danger was feared as the mine was closed, and would not be entered again until the ventilation was restored. Naturally the mine filled with gas. On the day referred to a heavy thunderstorm passed over the pit, a discharge of lightning injured several buildings close to the pit, and ignited the gas in the mine, causing a heavy explosion.

The discharge had presumably struck the iron pulley wheels, and followed the steel rope down to the cage which was standing about 20 feet from the bottom. The flash would be at this point, and in an atmosphere almost undoubtedly filled with explosive gas. This accident fortunately accompanied by no loss of life, shows conclusively the effects of lightning, the pit being closed and no person in the vicinity, and the explosion coinciding with a heavy lightning discharge.

The third seam underlying the deep seam about 85 feet was, on January 15th, 1888, the scene of a very violent explosion.

During the summer, part of the pillars in a panel in the third seam were drawn beneath the cage pit workings at a point where a fire had been built off about the year 1872. This fire was believed to have been extinguished and no danger was anticipated. After several pillars had been drawn, the fall ran up to the cage pit workings, hot stythe came into the third seam, and finally some of the stone that fell was found to be sensibly warm. The panel was built off at once, a work of no great difficulty, as there were only five openings The temperature of the interior of the panel did not increase for several weeks, and it was believed that the fire would be extinguished. One Sunday morning, smoke was found in the returns, and shortly after a very violent explosion took place which destroyed the bank head, and reduced tubs, brattice, &c., to matchwood. The side of the pit the explosion occurred in was built off, and no further trouble has been experienced. The immediate origin of the fire is unknown. But the presence of smoke in the return before the explosion would make it appear probable that a fall or a slight explosion broke one of the stoppings, and that the furnace in the third seam drew gas from the upper seam upon the fire. Presumably the effect of the explosion was increased by dust, although the mine would not be classed as dry and dusty.

On February 21st, 1891, an explosion, accompanied by heavy loss of life, took place at the Springhill Mines, Cumberland county. At this point three seams are worked by three slopes, all the workings had been connected by tunnels, but those leading into the north seam had fortunately been built off before the explosion. The seams dip at an angle of about 27°, and are opened by slopes, with levels at convenient distances apart. From the levels places are driven to the rise on the full pitch of the seam, and horizontal boards turned away. The tubs are raised and lowered, between the board mouths and the level, on platforms worked by counterbalances.

The seat of the explosion was in the No. 6 and No. 7 balances of the 1900 feet level west of the east slope, at the face of the working of this section. These balances, about 600 feet in length, extend on the full pitch of the seam from the 1900 to the 1300 feet levels, and take the coal from the usual horizontal boards or working places.

These balances were connected with the 1300, or stony level, and were ventilated by air from the lower level, which was divided between the balances, and uniting at the 1300 feet level, ventilated the workings above that level, and passed to its outlet beyond the faces of the workings above the 800 feet level. The air was provided by a downcast fan, and appeared to be ample for the extent of workings. From repeated examinations the explosion appeared to have started from a point about the centre of No. 7 balance (the furthest in balance) and to have gone up and down the balance, wrecking the working places branching off it. Also to have penetrated into No. 6 balance through the lower working places in it, which had been worked through into No. 7 balance, and in a similiar manner to have wrecked it and the working places branching off it. As the connections between the top of the balance and the 1300 feet level were comparatively small, the force of the explosion extended but a few yards through them into that level. The openings into the 1900 feet level being larger, the explosion was felt severely at the foot of the balances, and the two levels were wrecked into their faces a distance of about 400 feet, and towards the slope for a distance of about 1500 feet. The force of the explosion was slightly felt at the bottom of the slope, and did not attract attention at the surface, except by a momentary agitation of the fan at the east slope and a slight puff of air at the west slope in the underlying seam, which was connected by a tunnel with the east slope seam, a few yards from the top of Nos. 6 and 7 balances. The explosion ignited some canvas brattice and boards in No. 6 balance, but this was extinguished without difficulty.

The workings of the No. 7 balance were naturally very dusty, and were systematically watered, an ample supply of water being led through them by pipes from a large pump standage or lodgment on the upper level. The water that made on the 1300 feet level was used for watering Nos. 6 and 7 balances. The watering was effected by putting a valve on the pipe in each working place in No. 7 balance, so that a coal box, holding a barrel, could be run under it and filled, and the orders were that it should be thrown on the roof and sides of the working places. Water was also allowed to run into the boards, and the shot firers were instructed to see that the vicinity of the shot to be fired was damp. The amount of water available, and the directions for its use, should, in my opinion, have kept the stationary dust well damped.

The reports show that the workings in No. 7 balance were free from gas on the morning of the explosion, and the available evidence points to the fact that there was no lying gas up to the time of the explosion, as the brattice men who had completed their special works in other parts of the slope were killed by the explosion in the lowest board of the balance on their regular rounds for the purpose of testing stoppings, brattice, &c. Evidence was given to show that the levels had been making gas for some time, but the air was good, and no accumulations were permitted.

From the evidence produced, the directions to the shot firers, night men, brattice men, &c., were proper, and carried out. There appeared in some instances to have been latitude allowed by shot firers to miners in respect to charging holes before they were examined. In my opinion, when the supervision of shot firers is considered necessary, no hole should be charged before it is measured by the shot firer, and the amount of powder used should be subject to his opinion. I am the more inclined to this in reviewing this matter, as the evidence tended to show that the "flaming" shots referred to in the investigations were in some instances contributed to by a want of attention in placing the hole and the charges of powder.

From the evidence taken it appeared that the manager, Mr. Swift, who was killed by the explosion, his assistant, the underground managers, and other officials were careful and attentive, and that daily reports and check reports were used.

The weight of evidence appeared to be that there had been an overcharge of powder.

The mine had been carefully examined the day previous by the deputy inspector, and two days before a committee of the men examined this mine, and were quite satisfied with the ventilation and the precautions taken to keep the workings damp.

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* Abstract from a paper contributed to the Federated Institute of Mining Engineers.

THE Rand Central Ore Reduction Company has developed a new cyanide process, known as the Siemens Halske. In the MacArthur-Forrest process the gold, after having been extracted from the tailings, is precipitated by means of zinc shavings; while under the new method the gold is deposited by electrolysis on two thin lead sheets. It is claimed that this process is cheaper than the other, on account of the smaller quantity of cyanide required, while the gold is obtained in a much purer form than by the present plan. The process is being used at the Worcester property, where 3000 tons a month are being treated. The Reduction Company is also testing an aluminium process.

ON THE ORIGIN OF THE GOLD IN QUARTZ VEINS.

By HENRY LOUIS, Assoc.R.S.M., F.I.C., F.G.S., Mem Amer. Inst. Min. Eng., &c.

MR. HENRY LOUIS contributes to the September number of *Knowledge* an interesting article on the above subject, which we take the liberty to reproduce. He says:—

Whenever we find rival sets of theories held by acknowledged authorities in any branch of science, one of the best services that can be rendered to that science is the collation and criticism of these theories as applied to some one closely defined subject. In no other way can the weakness and strength of the respective positions be as clearly seen, and the probabilities in favour of each as successfully studied.

The general question whence the various substances have come that constitute the filling of mineral veins is still to-day, in spite of the immense amount of work that has been bestowed upon it, one of the most debatable within the whole range of geology. Whilst no one nowadays doubts that the filling up of the fissures, which constitute veins, has been brought about by aqueous or hydrothermal agencies, and that the various minerals have been introduced in solution, opinions vary greatly as to the direction whence these mineral solutions have come. They may have entered the open fissure from above or below, or may have been forced in by pressure or by capillary attraction through the pores of the rocks that form the walls of the fissure. There are, accordingly, three main schools of theorists — the descensionists, the ascensionists, and the lateral secretionists. Professor Lobley has ably sketched the theory of the origin of gold in quartz veins from the descensionists' point of view, and it should prove a profitable and an interesting task to now attack the same problem from the opposite standpoint, and to briefly summarise what may be considered the case for the opposition.

It is hardly worth while to insist upon the primary point that gold, like other minerals, has been deposited from solution. Professor Lobley has accumulated a considerable body of negative evidence on this head, his proofs resting upon the fact that gold does exist within regions of known volcanic action. This evidence is hardly, however, as satisfactory as it might be; first of all because it is negative; and, secondly, because there are, at any rate, two well known and oft-quoted localities—Sulphur Bank, California, and Steamboat Springs, Nevada—where gold may actually be traced in process of deposition, both of which offer unmistakable evidence of volcanic phenomena in the shape of hot mineral waters and gases. According to some authorities, too, the famous Mount Morgan Mine, in Queensland, is simply a geyser deposit, though it is but right to say that this theory has by no means passed unchallenged. I recently attempted to obtain some more direct proof of the aqueous origin of vein gold, and for this purpose compiled as complete a list as possible of all minerals known to accompany gold in auriferous veins. ("The Mode of Occurrence of Gold," *Mineralogical Magazine*, Vol. X., No. 47, p. 241.) This list comprised no less than 77 mineral species; fully two-thirds of these, however, are beyond doubt composition products of others, which had as clearly been the minerals primarily accompanying the deposition of the gold. Of the entire list, however, there was not a single one that is not well known to be producible by deposition from solution, whilst the true volcanic series are conspicuously absent. After all, however, the soundest argument on this point is from analogy, and if there were no other evidence forthcoming, it would yet be safe to conclude that gold, like the other constituents of mineral veins, has found its way into them in solution. When we find crystalline particles of gold in the midst of a vein filled with crystalline quartz, which we know to have been deposited from solution and not injected in a state of fusion, the inevitable conclusion is that the gold, too, was precipitated from solution, and probably even from the same solution as that which held the quartz dissolved. It is, therefore, satisfactory to be able to confirm Professor Lobley's views as to the non-igneous origin of gold by means of a totally different line of argument.

With respect, however, to Professor Lobley's next step, in which the ocean is looked upon as the source of this gold, the proposition becomes far more open to debate. Whichever view we now take, there are difficulties on every side, and the problem assumes such a degree of complexity that its complete solution in the present state of our knowledge is out of the question. It is just possible to find that sea water could find its way directly into fissures of the earth's crust; nevertheless, direct deposition of the gold from its solution in sea water is pretty well out of the question. In the first place, it is rather difficult to conceive of any system of circulation by which sea water should directly find its way into fissures that were being at the same time filled with a deposit of silica from other sources. Quite apart from the scientific interest of the question, the practical conclusions that would follow from the acceptance of this theory are so far-reaching that they cannot be assented to without the strongest possible proofs. It is fairly clear that if the gold of mineral veins were derived directly from the sea—that is to say, if the descensionists' theory in this form is the correct one—the upper parts of the gold veins would be the richest. It is quite true that there is frequently a superficial enrichment of auriferous veins near the surface, due to combined physical and chemical causes, to the concentration, in this portion of the reefs, of the gold derived from the degradation in time past of still higher-lying portions now denuded away, such degradation having, of course, occurred subsequently to the consolidation and upheaval of the vein, together with the surrounding strata. It is also true that the upper portions of reefs are mostly richer in free gold than the lower-seated portions, but this again is only due to the oxidation by atmospheric agencies of the previously existing pyrites with which the gold was intimately combined. The total tenour of gold in the vein is not necessarily affected by this latter change, and, upon the whole, there is no evidence whatever that gold veins become progressively poorer as we go down deeper upon them. Practical gold miners are fond of saying that gold reefs improve in depth, but practical gold miners are a sanguine race, and it seems but too probable that in the majority of cases it is the "wish that is father to the thought." Instances can, no doubt, be quoted where gold mines, like other mines, have improved in depth, but this must by no means be interpreted into a general law. The richness of gold reefs varies in their vertical as it does in their horizontal extension, but not regularly; in the present state of our knowledge it would be unsafe to predicate more.

According to Professor Lobley's view, however, sea water is not the direct but the indirect source of the gold of quartz veins. If we admit as proven that sea water contains gold in solution—and the balance of evidence appears, perhaps, to be in favour of this view, although it is by no means easy to speak with certainty when such minute quantities are in question*—the gold most probably exists therein as haloid salt, possibly as a double chloride of gold and sodium or potassium. This, although one of the most stable salts of gold, is nevertheless so readily decomposable by every reducing agent, including light and a comparatively low degree of heat, that it would be quite inconceivable that metallic gold should not be deposited from this sea water, together with the sedimentary rocks forming on the sea bottom, if it is allowable to take the ordinary laboratory reactions of gold salts as our guide. Modern chemical research has, however, shown that the effect of mass action is too important to be disregarded, and that solutions of extreme tenuity are subject to laws differing widely from those governing the ordinary solutions with which the chemist is in the habit of dealing. Moreover, we are confronted by the difficulty that if this gold were precipitated in the usual way, there would be none left in the ocean, unless it were being redissolved as fast as it was precipitated. The fact, if it be a fact, that the ocean everywhere contains a minute but approximately uniform quantity of gold, is in reality a fairly good proof that this gold is not being precipitated. Having regard to the circumstance that very many rock masses have been proved to contain minute quantities of gold, it is, moreover, quite unnecessary to go back to the ocean for a known source of this metal. The evidence that gold does occur in various rocks seems to be tolerably complete, and its presence has been detected not only in sedimentary, but also in eruptive rocks. Whatever may be said about sedimentary strata, eruptive rocks cannot well be supposed to have obtained the gold they contain from sea water. In fine, reviewing the fact before us as a whole, it seems far more probable that whatever gold is contained in the ocean has been leached out of rocks, than that the rocks have derived their gold from the ocean.

We have so far cleared up two distinct points in our investigation, and are justified in assuming—firstly, that the gold of veins was introduced in solution; and secondly, that its source may probably be traced to various rocks of the earth's crust, and very possibly deep-seated ones, such as eruptive rocks must have been originally. Two other points yet remain: How was the gold dissolved out of the rocks in which it existed? and how was it deposited from such solution? To these latter two queries I fear that our answer will have to be less definite than to the former ones, much of our knowledge, if knowledge it is, being only inferential. If we consider a a fissure in the earth's crust, lying below the region of the superficial currents of underground water—the "vadose circulation" of Posepny—we must in the first place look upon it as necessarily filled with water, and in the second place we must suppose this water to be in motion. The pressure in the fissure will probably be less than in the deeper-lying and adjacent rock masses, and the greater temperature of the lower parts of the fissure will give rise to conviction currents carrying the lower water to the upper portions of the fissures; other water must descend to take the place of that so driven upwards, and thus a deep circulation will be maintained, aided, no doubt, by inequalities of pressure and capillary action. These water currents would evidently suffice for the conveyance of dissolved gold into the fissures, if we can account chemically for its solution. It must not be forgotten that we have no actual knowledge of the behaviour of substances under such conditions of intense temperature and pressure as prevail in the deeper regions of the earth, and that we are compelled to reason from our laboratory experiments, which may, however, be leading us directly away from the truth. With this proviso, it is not difficult to imagine conditions under which gold may pass into solution. The most permanent soluble salts of gold are the haloid salts, and it has usually been assumed that it is in this form that gold occurs dissolved in Nature. In the paper already referred to, I suggested that it is far more probable that the gold is dissolved in the form of an alkaline aurate, It is well-known that the fused alkalies, in the presence of air or of an oxidizing agent like nitre, attack gold, forming an aurate soluble in water, and also that many natural waters are strongly alkaline. Perhaps the strongest argument in favour of this view is the invariable association of gold with quartz, an association too invariable to be accidental, so that it seems natural to suppose that the solvent that carried the quartz into the fissure carried the gold also. I personally prefer this explanation, which rests upon reactions and compounds that we know, to imagining a hypothetical soluble silicate of gold that may or may not exist. It presents, moreover, distinct analogies to another mode of solution of gold, of which we have positive evidence — its solution as a sulphaurate in the two localities already quoted, Steamboat Springs and Sulphur Bank. Both these localities have been repeatedly described by writers on genesis of mineral deposits; nevertheless, a few lines about them, with reference more particularly to the question we are now considering, may prove of interest. The best account of both is to be found in Becker's monograph on the geology of the quicksilver deposits of the Pacific slope in the *United States Geological Survey*, Vol. XIII. (1888); J. Le Conte has also written on the subject in the *American Journal of Science*, Vols. XXIV. and XXV. Steamboat Springs is the name given to a small district in Washoe County, Nevada, well known as a thermal health resort, some six miles from the Comstock lode. The underlying rock of the district is granite, which is overlaid in many places by metamorphosed rocks, of the Jurassic system and by lavas. The springs issue from a series of vents in a narrow valley between two volcanic ridges, the waters being very hot, alkaline, and charged with carbonic acid and sulphuretted hydrogen. Analysis has shown that these waters contain traces of many metals, amongst them gold. The vents out of which the water comes are the remains of a series of extensive fissures, which are now nearly choked up by having been filled with silica deposited by the springs themselves. These deposits are "in many places stained and clouded with metals. . . . In places where there is water still issuing slowly, silica is found in a gelatinous condition. . . . Here then, undoubtedly, mineral veins are now forming under our eyes, but their metallic contents are in a very small proportion." (Le Conte, *loc. cit.*) It is noteworthy that cinnabar has been mined in the immediate neighbourhood, and that the deposits of this mineral are evidently closely connected with the springs themselves. The phenomena at Sulphur Bank, California, closely resemble the foregoing. The country rock consists of Neocomian sandstones and a series of metamorphic rocks, intersected by eruptive basalts. There are numerous hot mineral springs carrying alkalies and alkaline sulphides in solution, associated with a series of deposits of cinnabar and silica, crystallised and amorphous. These latter have been mined, and streams of heated water and gases were met with in the course of the operations. The deposits occur both in the sandstones and the basalts. Other sulphides are present besides cinnabar, and these have been shown to contain gold. Most geologists who have studied these deposits are of the opinion that their formation has not yet ceased. Becker thus summarises his views on both these deposits: "I regard many of the gold veins of California as having an origin entirely similar to that of the quicksilver deposits. . . . The evidence is overwhelming that the cinnabar, pyrite and gold of the quicksilver mines of the Pacific slope reached their present positions in hot solutions of double sulphides, which were leached out from masses underlying the granite or from the granite itself." (*op. cit.*, p.p. 449, 450.) In both these localities, therefore, gold has been pretty conclusively proved to be in the course of deposition from hot alkaline sulphuretted solutions, in which there is little doubt that the gold is dissolved as a double sulphide of gold and an alkali, or, in other words, as an alkaline sulph-aurate. Apart, therefore, from the doubt thrown at the outset upon any theories based upon our laboratory experience, there seems to be little difficulty in accounting for the solubility of gold at depths far beneath the earth's surface.

The last stage of the process is also the most difficult of explanation. Given that the gold is in solution, we have to account for its deposition in the fissure under circumstances that do not admit of its re-solution in the same water current. Perhaps the wisest course is simply to confess our ignorance whilst suggesting tentatively a few plausible hypothesis. Of course the solution, when it enters the fissure, contains a number of other substances, notably silica, in solution besides the gold, and whatever cause determined the deposition of these substances most probably precipitated the gold also. For all we know, this cause may have been some electrolytic action. Or again, if temperature and pressure are requisite for the retention in solution of the various substances, these latter would naturally be deposited when the solution found its way into the upper parts of the fissure, where the pressure would be lower and the temperature would be gradually decreasing as the solution rose upwards. It is easy to imagine the mixture in the fissure of the original solution with another which might contain dissolved in it various reducing agents. Or, if the fissure already contained particles of various metallic sulphides, these would precipitate gold readily from such a solution as the one described above. I have proved experimentally that natural sulphides, such as galena and iron pyrites, precipitate gold readily from a solution of an alkaline aurate. The simultaneous deposition of such a metallic sulphide and of gold from a sulph-aurate would probably account for the intimate combination of gold with various "sulphurets," which, to his sorrow, the primitive gold miner knew but too well, and to extract the precious metal from which all the resources of modern scientific metallurgy are needed.

Any of the above hypotheses are admissible as possibly correct explanations, though it is hardly safe to say anything more than this in their favour. It is more than probable that no one simple reaction can account for all the various occurrences of gold in veins, and that whilst the above may all be valid hypotheses, there are probably many other causes of precipitation besides those enumerated.

There is no branch of geology less advanced at the present day than geological chemistry, to which subject this sketch of the genesis of gold reefs properly belongs. At nearly every step we are groping in the dark, with but faint gleams of light from experimental science —the only safe guide we can have—to show us the way that we should attempt to follow. And whilst none can be more sensible than myself of the numerous defects and shortcomings in the theory here presented, I venture to hope that even the mere attempt to put together the different hypotheses on the subject may have its value, were it only in accentuating the extent of our ignorance.

* Whilst these pages were passing through the Press, I received a copy of the presidential address of Mr. Stanford to the Society of Chemical Industry delivered in July, in which that gentleman says: "No analysis can give us any idea of what the ocean really contains. . . . The presence of gold has not been satisfactorily proved; it was expected it might accumulate in the copper sheathing of ships, and Messrs. Muntz obliged me with specimens of old sheathing, both copper and Muntz metal. Mr. Inglis, who kindly examined these for me, found both gold and silver, but not in larger proportion than usual."—(*Journ. Soc. Chem. Ind.*, Vol. XIII., No. 7, p. 597).—H. L.

ELECTRICITY DIRECT FROM COAL.

THE GREATEST PROBLEM IN ELECTRO-CHEMISTRY.

By Dr. WILLIAM OSTWALD.

IN the August number of the *Engineering Magazine*, Dr. William Ostwald contributed an article on the above subject, which we take the liberty of reproducing:—

The ground on which applied and abstract electrical science are soonest likely to unite for joint work is that province in which all of us expect to see the next great phase of the application of electrics to technical problems: the province of electro-chemistry. The auspices for such a union are uncommonly favourable at the present time. That problem of a hundred years' standing—"the Voltaic pile"—has just been solved. By our newly-acquired knowledge of some constants we can now predetermine and very closely approximate the electromotive force of any pile howsoever composed, and regarding the conductivity of electrolytes also we have a very thorough knowledge.

The researches in electro-chemistry made during the last few years have led to a complete reversion of all previously accepted notions as to the condition of substances in solution; for instance, in place of chloride of sodium bound together by the strongest affinities, a solution of common salt is made out to contain free atoms of chlorine and sodium. What then are the facts forcing us to such an unheard of opinion?

Imagine a dilute solution, for instance, of chloride of sodium in much water. Such a solution, containing say one-half of 1 gramme of common salt in one litre of water, is still a very good conductor. The conduction of electricity, however, takes place in this way: the ions (*i.e.*, the ingredients of the salt) carry it off; the sodium must needs transport the positive, the chlorine the negative electricity. For in electrolytes, according to Faraday's law, electricity moves only with the ions. Let us more fully dwell on this movement.

If we assume again the above-mentioned concentration, the solution contains to each atom of chloride of sodium 1000 atoms of water. For equal distribution, therefore, we find in each line ten atoms of water alternating with two atoms of chloride of sodium; consequently, if conduction is to take place, assuming even conduction to be a mutual exchange of ions, each atom of chloride has to traverse five times the atomic distance before encountering an atom of chlorine with which to unite. Look at it from whatever side we please, we cannot help conceding the independent existence of atoms of sodium in the watery solution, and this, at that, for a longer time than they exist in combination. More than that, however, is not claimed by the theory of dissociation either. Thus, by means of a series of different methods, which are a check one on the other, we are enabled at present to accurately determine the part played by an electrolyte divided into its ions.

As a result we obtain a very simple rule for electric conductivity. In any electrolyte the conductivity is proportional to the quantity of ions contained in the unit of volume, and, furthermore, proportional to two constants, which may be called the velocity of ionite migration. The velocity is a maximum for hydrogen. I shall not now enter any deeper into this matter, though it is not without interest; for of higher interest yet is the research for the electro-motive forces, and this question has been solved by similar methods.

The basis of all discussion in this field of research is the osmotic pressure, and I shall explain first what this is. Five or 10 years hence this would hardly be necessary, for then every person of scientific attainments will be as conversant with it as with gas pressure. It is well known what happens when we superimpose pure water on a concentrated solution of any substance; the dissolved substance moves into the water. This movement or diffusion continues until everything is equally distributed. The cause which produces this movement, and which is in the nature of a pressure, is just what we call osmotic pressure. If one wants to convince one's self that one is dealing with a real pressure it is necessary but to prevent the movement of the dissolved substance. We should need to this end a partition impervious to the dissolved substance, but not to the dissolving medium,—*i.e.*, water. It is not an easy task to produce such partitions, but in some cases it has been successfully done, and especially Professor Pfeffer has demonstrated by what means it can be accomplished. Employ such a partition and we will find the resulting pressures astonishingly high. A solution a salt's, such as the water of the ocean contains, would exert a pressure of 20 atmospheres. Whence the pressure comes we need not discuss now; suffice it to say the pressure exists, and is a property of all dissolved substances.

Any solid brought into contact with a fluid in which it can dissolve, is capable, of course, of producing such a pressure. It is only necessary to envelop it in the above described manner and, if we make the semi-pervious envelope so strong that the pressure cannot burst it, a maximum value of the pressure will finally be reached, depending on the solubility of the solid, and which cannot be exceeded. This pressure is quite analogous to steam pressure, and just as we utilise the latter in engines we can conceive of machines being operated by osmotic pressure. Well, a galvanic element is such an osmotic machine, and it will now be perceived why I have gone to all this length to explain it.

In order to fully understand, however, we shall still have to investigate the process of the dissolution of metals in galvanic elements. Zinc dissolves into sulphate of zinc. In the sense of the above discussed conception the process involves the formation of electrically charged zinc-ions from the unelectric metal. Simultaneously, however, if we base our contemplations on the Daniell cell, just as many copper ions enter into the unelectric condition,—*i.e.*, become ordinary metal. Positive electricity must, therefore, constantly be bound on the zinc electrode, and the same amount be discharged on copper electrode if the process is to take place at all; consequently, if we connect the two metals conductively an electrical process will occur simultaneously with the chemical process, and neither of them can take place without the other one.

The reader is now conversant with the analogy between the pressure and the electro-motive force. Precisely as we might operate a mechanical engine by means of two fluids of different steam pressure, just so we may operate an electrical machine by means of two sources of different electrical pressure or potential. The zinc and copper of the Daniell cell are two such sources of current of differen

potential, and the difference of their electrical pressure is based on the difference of osmotic pressure with which the zinc ions and copper ions are respectively endowed. The stronger the working pressure of the zinc and the weaker the reacting pressure of the copper to be overcome, the more favourable the element—*i.e.*, the higher is its electro-motive force.

The pressure with which a metal tends to go into solution—or its "dissolve pressure," as we shall call it after this—has a certain fixed value for every metal, and it might appear as though the two metals only and nothing else had to be considered in constructing galvanic elements. This, however, is not the case, and the impression is created simply because into this question enters another factor which has not yet been mentioned.

When the electrode of zinc is in contact with the liquid the effective dissolve pressure clearly not only depends on the zinc, but there are zinc ions in the solution which exert a reaction, and can become effective only in the proportion of the excess of the first pressure over the latter. The electro-motive force of the zinc, therefore, is the greater the smaller the action of the zinc-ions,—*i.e.*, the smaller the concentration in regard to zinc. It is well-known, in fact, that the electro-motive force of the Daniell cell is greater with sulphuric acid than with sulphate of zinc.

The conditions are the reverse for copper; here it is advantageous to have the concentration of ions as great as possible, for a great pressure on this side assists the separating of copper

These simple reflections constitute in the main theory of the galvanic element. Originated by Professor Nernst, this theory differs from former so-called theories in that it does not approximately demonstrate prevailing conditions, but, comparable to Newton's law of gravitation furnishes a quantitative theory controllable down to the most insignificent details. For this theory results in quite definite conclusions for definite premises and cases which at present cannot yet be fully calculated are in that condition, not by defects of the theory but simply because the integration of the different equations, which are known, has as yet been prevented by mathematical difficulties. Otherwise only the determination of the ruling constants is still lacking; quite a number are known even now, but of course some hard work has still to be done in this direction. This theory furnishes the means of finding the most suitable combination of substances for galvanic elements.

But there are problems of greater importance for electro-chemistry to solve. We all know the defectiveness of our most common source of energy, the steam engine. Under the most favourable conditions we realise of the energy stored in the coal, but 10 per cent. in mechanical work. And we also know that the heat cannot be entirely transformed into mechanical energy, but we can calculate the fraction which is obtainable from a given quantity of heat of a certain stated temperature when we allow it to fall to another also stated temperature—and here again we find the utilised energy to be but one-seventh of the amount that might be transformed. This poor result is not chargeable to the steam engine as a technical apparatus; the cause is found in the utilisation of only the smallest part of the high temperature of the combustible, which at a low estimate is 1000°—viz., that part between the temperature of the boiler and the temperature of the condenser. All that enormous difference of temperature between the combustion chamber and the boiler is a total loss. There is only one way of improving thermodynamic engines; higher initial temperatures. How to accomplish that is for the technologist to find out.

But thermodynamic engines are not the only ones in existence, and temperatures of 1000°, which is certainly no small matter to handle technically, are not unavoidable. The maximum of energy that can be obtained by any one change of energy is theoretically independent of the process by which the change is effected. Therefore, if we could transform into mechanical energy the chemical energy of the combustible without resorting to heat, we should not be tied then to the uncomfortably high temperatures, and might gain the entire amount without those discomforts.

The path on which this greatest of all technical problems—the production of cheap energy—can be approached; that path must be discovered by the electro-chemist. If we produce a galvanic element which furnishes electrical energy from the coal and the oxygen of the air, and furnishes it in amounts somewhat in proportion to the theoretical values, then we shall face a technical revolution in comparision with which the one following the invention of the steam engine will be dwarfed into insignificance. Think of the incomparably simple and elastic distribution of electric energy, and imagine the change in the appearance of our industrial centres! No smoke, no soot, no boilers, no steam engines—nay, even no fire, for fire will be needed only in the few processes which cannot be accomplished by electricity, and of those there will be fewer every day.

How the galvanic element in question will be constructed, of course, cannot even be surmised at present. Let me point out, however, an essential feature which is almost invariably misunderstood. The energy of the galvanic element originates in the chemical energy; that is indubitable. But not all chemical energy is changed into electrical energy. What then are the conditions for which the transformation is as complete as possible? Only the indirect chemical processes are electrically utilised.

Suppose we should take two vessels containing each a solution of potassium sulphate and connected by a filled syphon. We put a rod of zinc into the one and a rod of platinum into the other vessel. If we connect the two metals over a galvanometer a current of but very short duration occurs, and the needle of the galvanometer comes directly to rest again. We know this to be the consequence of the polarisation, and also know that a continuous current may be obtained by the employment of an acid in place of the neutral fluid. Suppose we employ sulphuric acid. Into which of the two vessels would you want me to pour it to produce a current? Whosoever had this questian put to him unhesitatingly answered, to the zinc, of course, for the zinc must dissolve. But my asking the question may convey the hint that the matter is different. We pour the acid to the zinc—no action. We pour it to the platinum, and we perceive the needle fly to the stop.

We arrive thus at the seemingly absurd result that the acid must be poured into the vessel not containing the substance on which it is to act. That applies quite universally. Some years ago I published a long series of experiments which proved the validity of the principle for entirely different reactions. And that is by no means an unforeseen or unexplainable fact, but the experiments were made because I had to inspect the demonstrated phenomena from the theory which at that time was only just shaping, although at first blush they appeared scarcely plausible,

But if we bestow some more thought upon the nature of these processes we soon perceive that they could not possibly take a different course. If the zinc is to dissolve it must form ions, and to that end take up a certain quantity of positive electricity. To make this possible an even quantity of positive electricity must leave the solution, so that an equivalent quantity of hydrogen relinquishes its ionite existence, and is transformed into common hydrogen. The discharge by the fluid of positive electricity cannot take place at the spot where zinc dissolves, for there the electricity is moving in the opposite direction. There is, therefore, no alternative but for hydrogen to escape at the cathode conform to the actual occurrence.

The explanation plainly shows the futility of the procedure of the late Joblochkoff when, some years ago, he tried to produce electrical energy from coal direct. He put the coal into melting niter from which to obtain oxygen, and the resulting violent combustion actually generated the current, but so weak a one that it could not be utilised. Now we clearly perceive the reason of his failure: the niter does not belong with the oxidable electrode, but with one not attacked by oxygen. Surely, in the Bunsen element we do not pour the nitric acid on the oxidable material—zinc—but on the coal, which, under these conditions, is not oxidable.

Therefore, our future coal element will have the oxidising medium on the side not containing the coal to be burned, and that medium must either be the oxygen of the air itself or some other oxidising substance producable in quantities from the same. In its chemical process such an element would be like an ordinary stove. Coal is shovelled in at one side and oxygen admitted from the other; carbonic acid escapes as product of the reciprocal action. A suitable electrolyte has still to be added to bring about the electrical process. The electrolyte only acts as an interposed substance, and will not be consumed.

This is not the place to detail the technical features which might lead up to the desired result; it will be some time hence before we shall be able to seriously cope with this problem. But I will say this much: we are not chasing rainbows, but we a re-dealing with a case the success of which is as much within our horizon as that of any other mechanical problem. It is left to technology to find the cheapest and best form for its practical application.

The work of science in a case like this is positive as well as negative; it shows what can be accomplished, or it may say: "this can surely not be done." The work of the inventor, however, is not superseded thereby. Science answers only yes or no, when interrogated, and in many cases it has no answer at all. The inventor has the difficult task of shaping the problem and advancing it to the point where the question may be put to science—and when it is put, how many times is science forced to confess: That has not yet occurred to me!

MEETINGS OF MINING COMPANIES.

POORMAN CONSOLIDATED MINES.

A committee appointed.—The mine to be reported on.

A meeting of the shareholders in the Poorman Consolidated Mines was held on Thursday, at Winchester House, for the purpose of considering the present position of the company.

Mr. CHESTER, who presided, explained that the proceedings were wholly informal, and were for the purpose of seriously considering the present state of the company's affairs. Shareholders would remember that telegrams received some time ago had led them to believe that the June output of the mine would yield something like a profit of $35,000. At the time when they ought to have received news that this sum had come into pocket, so to speak, they only got a telegram saying that the mill had been burned down. Having, unfortunately, a large holding he sent several times to the company's offices in order to gain particulars as to the cost of the mill in order to arrive at some conclusion as to the loss that had been incurred, as to whether any insurance had been effected, and also whether the directors proposed to take any steps to put the mill up again. They all knew that the season of working was a very short one, and that unless prompt measures were taken the whole of this season would be lost. Being able to get no particulars from the London representatives of the company he wrote out to the mine, and, in the meantime, communicated with Mr. Young as to whether any steps could not be taken to put the mill into repair again, assuming it was worth while going on. All that came from the board of directors as to that matter was an elaborately printed report, containing everything but a statement of what the mine costs had been. The report could be read from end to end without any light being thrown on the question whether the mine was being worked at a profit or a loss, and with the document came a proposition that the shareholders should subscribe for 48,000 new shares, in order to raise £12,000 to put up a new mill. This did not recommend itself to him as a business proposal. He was unable to see the policy of sending round circulars asking the shareholders to subscribe for shares without their knowing whether the others were doing the same. Nor did he think it likely the shareholders would subscribe for shares which could be bought in the market for 2s. (Hear, hear.) It appeared to him that either the directors did not understand their business, or else that they were of opinion it was hardly worth while the reconstruction should take place. He pointed out to Mr. Young that it was extremely unlikely that the money would be subscribed, and that if the mines were really worth all the shareholders had been led to expect they were worth, the money could easily have been raised upon debentures, with the understanding that those who subscribed the debentures should have the option of exchanging them for fully-paid shares during the ensuing twelve months. This proposal had succeeded in many cases, and seemed to him to be a fair one. Such was the proposal telegraphed out by Mr. Young, and the answer received was not, he believed, a favourable one. It appeared to him, therefore, that in the absence of anything like an assurance from the other side that a wise policy was to be pursued, it was necessary the shareholders should take some steps to protect themselves, if their shares were not going to become absolutely valueless. They, therefore, asked the secretary to call a meeting, which he declined to do on the ground of expense. In the end, therefore, they had to call the meeting themselves, and as they had no list of the shareholders of the company, they were obliged to rely on the advertisements in the financial papers. It appeared to him that as the mine was capitalised at something like £200,000, that £12,000 was not a large sum to raise for the purpose of putting up a mill. The first thing, of course, was to satisfy themselves as to whether there was a mine at all. (Laughter.) Fortunately, Mr. Young knew an engineer of great ability within a days' journey of the mine, and accordingly a telegram was sent to him to know whether he could look over the mine and report as to its present position. His answer was to the effect that he would go for 100 guineas and his expenses. It would, of course, have been too late to wait for that meeting, and one or two of the principal shareholders found the money, and the engineer had now gone to the mine. He had been asked to send over every possible information about the mine so that the shareholders should be able to say whether it was possible to save it from disaster, or whether all their money had been lost. So far as he could tell from what he had heard and read the mine was a thoroughly good one, and he had strong hopes that the report when received would bear out the reports formerly received from the board of directors. If that were so, he should think there ought to be absolutely no difficulty about raising the money on favourable conditions for erecting the mill. It was something of a misfortune that they had not taken these steps two months ago, but they were in hopes that the directors themselves would have taken steps to put up the mill. If the mine was what they believed it to be, there would have been no difficulty in getting the money on loan; but as it had appeared to him that nothing was being done on the other side, there had been no alternative but to take the bull by the horns, and hence the present meeting. (Applause.)

Mr. YOUNG said he had little to add to what had been so ably put before the meeting by Mr. Chester. He had wired out to the authorities on the other side, suggesting a debenture issue as the best means of raising the £12,000, and saying that he could almost guarantee the issue, to which he got a reply stating that notice would shortly be sent to the shareholders inviting them to subscribe the money, which they had already received. As there seemed to be some difficulty about communicating with the shareholders through the secretary, he suggested that everyone in the room should put down his name and address with the amount of his holding, so that they could, if necessary, communicate with him. He also wished to suggest that upon the receipt of the report from the engineer, another meeting should be called for the purpose of considering it. Perhaps it might even be that the engineer would be refused access to the mine. He had wired to San Francisco asking that he might be given permission to go over the mine, but it was impossible to say what would be the result. Should the report be favourable, he thought it would be well if, on coming together again, the shareholders would put their hands into their pockets, subscribe for sufficient debentures to realise the £12,000, bearing 10 per cent. interest, and redeemable in two years at £105. (Cheers.)

Mr. HUGH LIMEBEER said he represented the Paris shareholders, and informed the meeting that Mr. Louis Peleton had departed for the mine with the object of reporting upon it, and was probably now in San Francisco.

A SHAREHOLDER asked if there was any probability that the creditors of the mine would seize it.

The CHAIRMAN said he did not know. They had been left for about two months without guidance, and he was anxious the London shareholders should show that they were ready to subscribe the money rather than lose the whole of the property. If the mine were of the value which had been represented, he was utterly unable to understand the action of the directors.

A SHAREHOLDER urged the meeting to show that they were willing to subscribe the money if only to vary the monotony of the New York proceedings. (Cheers.)

Eventually a resolution was unanimously passed appointing Messrs. Arthur Young, Newall, H. Limebeer, and J. Varley as a committee to guard the interests of the company, and the shareholders as they left the room wrote down their names and addresses in order to enable a communication to be made to them, and further wrote the amount they were prepared to subscribe towards the debenture issue, in the event of the expected report being favourable.

The meeting terminated with a vote of thanks to the Chairman.

SOUTH FRANCES UNITED MINES.

Call of 10s. a-share.

Mr. C. BAWDEN (purser) presided on Thursday over a 16 weeks' meeting of the shareholders in South Frances United Mines.

Captain W. HOOPER reported that, with regard to Pascoe's shaft, the lode in the 285 fathom level west was worth £6 per fathom. The driving of this level was suspended at present for want of compressing power, but will be resumed again when convenient to do so. Since the last meeting they had commenced to rise above the 246 fathom level west, against Daubuz's shaft by boring machinery, which was now up 14 fathoms. The lode was worth £10 per fathom. They had 65 fathoms more to rise at this point in order to set under the perpendicular of Daubuz's shaft, which they would force on with all possible speed. A rise was being put up in the back of this level west of crosscourse by boring machinery. The lode was worth £15 per fathom. A stope in the back of this level west of crosscourse was worth £15 per fathom. The rise and stope mentioned had fallen off in value in consequence of another dropper coming in from the south side, which had disordered the lode, but from appearances it was thought it would improve again shortly. A stope in back of the 226 fathom level west was worth £10 per fathom. In Grenville's shaft there was a rise above the 144 fathoms level west, and was worth £8 per ton. A stope in the back of this level was worth £10 per fathom, and the one in the back of the 134 fathom level west was worth £11 per fathom. The lode at the 124 fathoms level driving west had improved, and was now worth £18 per fathom. A winze sunk below this level was worth £12 per fathom. They were opening up a good section of tin ground here which would be available when they communicated the winze and rise to this level. A stope in the back of this level was worth £11 per fathom, and another in the bottom of this level was worth £10 per fathom. The lode in the 114 fathom level driving west was worth £7 per fathom. Daubuz's shaft was now down to the depth of 14 fathoms from the surface, and from the appearance and character of the granite he thought that they would soon intersect West Frances engine lode. They were still making good progress in sinking, and had about 60 fathoms further to sink, having in all 25 fathoms of ground more to go through in order to communicate with the 246 fathom level. It was hoped to accomplish this in a little over a year. In the tribute department they had 60 pitches being worked by 160 men on tribute varying from 9s. 6d. to 13s. 4d. in the £, the standard for tin being £40 per ton.

The statement of accounts, as audited by Mr. C. W. Clinton, showed that over 221 tons of tin had been sold since May 11, for £8873 16s. 4d., at prices varying from £42 7s. 6d. to £38 10s. Labour costs £7836 16s., merchants bills £3968 13s 6d., dues to Mr. St. Aubyn £40, bills receivable for iron, tin, &c. £1113 0s. 3d. Balance against the adventurers £3938 8s. 6d.

The CHAIRMAN mentioned that the arrears of call had been reduced from £469 to £373. Unfortunately they had to again to again face a heavy loss, and there were those who thought, but they were wrong, that it would be wise to stop selling the tin. There was a concensus of opinion that the price of tin would shortly improve, many thinking that £60 a ton would be reached. (Hear, hear).

The adoption of the accounts and report were, on the proposal of Mr. D. W. BAIN, seconded by Mr. N. TRESTRAIL, passed, after which a call of 10s. per share was unanimously assented to. Payment will be due on October 13.

THE EDITOR'S LETTER BOX.

*** *We wish it to be understood that we do not hold ourselves responsible for, and do not necessarily endorse, the opinions of correspondents. All communications must be accompanied by the names and addresses of the senders, though these need not necessarily be published.*

THE PRESENT OF CORNISH MINING AS COMPARED WITH 15 YEARS AGO.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—Cornwall abounds with mineral concessions which cannot be excelled in any other part of the world, and under conditions the same have given shareholders in surrounding mines its million sterling in divided profits. The progressive advance in the price of metals are symptoms of a steady return to life, and of a boom in the values of stock, of mines of deserving notoriety. The most disastrous year in living memory for mining was in 1879, when tin metal was £65 per ton, and the price of mining shares equally depressed, but ere the close of that year tin metal advanced to £90 per ton, and the rapidity with which the price of shares went up may be better understood from the fact that six mines rose in aggregate value from the beginning to the end of the year from £485,000 to £1,432,000. Mines known to the writer, well stocked with machinery and possessing the same elements of success as those referred to in that year, are among the first to participate in the rise which I venture to predict must take place within the next few months, the pleasurable expectation being justified by discoveries and the steady advance on the price of tin metals. The county has nobly withstood the vicissitudes natural in such times; the turning point is being hailed by the activity of local people taking advantage of the low prices at which the stock is obtainable; thus we are soon to see the history of the end of that memorable year 1879 repeated.—I am, Sir, yours faithfully,

CHAS. BAWDEN.

Poldice House, St. Day, Scorrier, Cornwall.

CLEVELAND IRONMASTERS' RETURNS.—The Cleveland ironmasters' returns for August, issued at Middlesbrough, show an increase of 13,298 tons, making 43,000 tons addition in the four summer months. The production, 244,000 tons, was 8000 tons less than in July, because of the 24 hours' cessation by blast furnace men, of this 117,000 tons consisted of Cleveland iron, and 127,000 tons of other kinds. The stock of iron, 186,000 tons, is 15,000 tons less than in August, 1893; but five more furnaces are now going.

THE rainfall at Coolgardie and Southern Cross continues good, and some of the tanks are filling up fast.

PROVINCIAL SHARE MARKETS.

THE CORNISH MINE SHARE MARKET.

MR. SAMUEL JOHN DAVEY, Dealer in Cornish Mine Shares, Redruth, Cornwall, reports under date of September 6 (4 o'clock) as follows:—We have had a steady market this week with firmer prices. To-day market is quiet. Following are quotations:—Blue Hills, ⅜ to ⅝; Carn Brea, 7¼ to 7⅜; Cook's Kitchen, ⅜ to ½; Dolcoath, 70 to 72; East Pool, 9 to 9¼; Killifreth, 2-16 to 2-18; Polberro, 1¼ to 1⅜; South Condurrow, ¼ to ¾; South Crofty, 1½ to 1⅝; South Wheal Frances, ⅜ to ½; Tincroft, 12½ to 13; West Frances, 1⅜ to 2; West Kitty, 7 to 7¼; Wheal Agar, 1⅜ to 2; Wheal Basset, 1 to 1 ; Wheal Grenville, 18¼ to 19½; Wheal Kitty (St. Agnes), 15s. to 17s.

Mr. MICHAEL WILLIAMS BAWDEN, Mining and Assaying Offices, Liskeard, Cornwall, writes (August 30) as follows:—The mining market continues firm on the steady rise of tin and view of a further improvement; prices have not yet shown any material advance, and a scarcity of sellers. Closing prices:—Blue Hills, 8s. 6d. to 10s.; Botallack, c.p., 1½ to 1⅝; Carn Brea, 7⅛ to 7⅜; Cook's Kitchen, ⅜ to ½; Devon Consols, 1⅛ to 1¼; Dolcoath, 71½ to 72; East Pool, 9 to 9¼; Killifreth, 57s. to 58s. 6d.; Levant, 6¼ to 6⅜; Phœnix United, ⅜ to ½; Polberro, 1⅛ to 1¼; South Crofty, 1½ to 1⅝; South Frances, c.p., 1⅛ to 1¼; Tincroft, 12½ to 12⅝; West Frances, 2⅛ to 2¼; West Kitty, 6⅜ to 6⅝; Wheal Agar, 2⅞ to 3; Wheal Basset, 1⅜ to 1½; Wheal Grenville, 18¾ to 19; Wheal Kitty, 16s. to 17s. 6d.

Messrs. ABBOTT AND WICKETT, Stock and Share Brokers, and Mining Share Dealers, Redruth, write under date of Thursday, September 6:—The Cornish Share Market has shown a firmer tendency during the past week, and a fair amount of business has been recorded, the chief dealings being in Carn Breas, Dolcoaths, Killifreths, East Pools, and Tincrofts. Quotations herewith (4 o'clock):—Blue Hills, ⅜ to ½; Carn Brea, 7⅛ to 8; Cook's Kitchen, ½ to ⅝; Dolcoath, 71 to 73; East Pool, 9 to 9¼; Killifreth, 57s. to 59s.; Polberro, 1⅛ to 1⅜; South Condurrow, ¼ to ⅜; South Crofty, 1⅛ to 1⅜; South Frances, ½ to ⅝; Tincroft, 12⅛ to 13; West Frances, 1⅜ to 2¼; West Kitty, 6⅜ to 7; Wheal Agar, 2⅜ to 3; Wheal Basset, 1 to 1½; Wheal Grenville, 18 to 19; Wheal Kitty, ⅝ to ¾. Tin, 72½.

MANCHESTER.

Messrs. JOSEPH R. and W. P. BAINES, Stock and Share Brokers, Queen's Chambers, 7, Market-street, write September 6, 1894 (noon):—Business has been quieter during the past week than of late, but as regards the railway markets, at any rate, there are a few features in the matter of changed quotations. In home rails the chief feature has been the movement in Scotch stocks more particularly Caledonian issues. Prices had been dwindling during the major portion of the week, but the Caledonian dividend announced yesterday pulled figures down again sharply. Notwithstanding that the dividend is the same as last year at this time, and with a trifle larger amount carried forward prices fell away suddenly. This fall was doubtless owing to the distribution being below expectations, and perhaps more to the announcement at the same time of a new issue of stock to the extent of over a million pounds. The Caledonian undivided and deferred both were quickly depreciated, losing about 2 each on the day, and making the loss on the week on these stocks 5¼ and 3¼ respectively. North British new ordinary are 2, and the preferred about 1 down on the week also. The rest of the changes are irregular, expressed in fractions on either side, with the single exception of Lancashire and Yorkshire which stand out with rise of 2¼ on the week. Canadians show some little falling off from the improved figures of a week ago, but the largest decline is only ¾ (in Trunk Guaranteed) the others being only to the extent of ½ or ⅜. Mexicans too, have run back a bit, the ordinary being ¼ to ¾, second preference 8 to 1, and first preference 1 down. Americans have fluctuated with somewhat narrow limits, and though at time of writing lower prices are rather in vogue; still the record for the week shows advances still retained, of which the following are foremost, viz., Milwaukees $2, Atchison Incomes $1¼, ditto ordinary $1⅛ to $1⅜, Louisvillles $1¼, Central Pacific $1¼. Besides these, the changes are all in small fractions, but all on the upward side also. Consols have further advanced 5-16, reckoning that the quotation is now ex dividend. The upward march continues in "top rank" securities. Colonials show the following advances, viz., New South Wales Consolidated 1, Queensland Inscribed 1, and Canada Registered, Cape of Good Hope Registered, South Australian Registered, and Victoria Railway Inscribed ¼ each, without any changes of an adverse character. In home corporation stocks not much variation is shown, but prices are very firm. The alterations are Manchester Four per Cent. ⅞, and Nottingham Three and half per Cent., both higher. Foreigners furnish a goodly list of enhanced prices, with but little of a contrary nature. Higher: Argentine Six per Cent. 2, ditto Five per Cent. 1¼, Brazilian Four and half per Cent. ¼ to 1⅛, ditto Four per Cent. ¼ to ⅝, Egyptian Unified ⅛, Mexican Six per Cent. ¼ to 1, Russian Four per Cent ⅛, Spanish Four per Cent. 1¼, Turkish (Group 4) ⅝, and Uruguay Three and a-half per Cent. ⅜ Lower: Italian Rentes and Portuguese Three per Cent. ⅛ each. Whilst business from the miscellaneous section of the market has not been by any means on a large scale, prices in all departments show advances more or less in majority.

BANKS better, there being no declines to set against the following favourable changes—viz, Imperial Ottoman ⅜, Imperial of Persia ⅛, Parr's ⅛, Bank of Liverpool ⅛, and London and Midland ⅛.

INSURANCE.—These have again gone fairly strong, though the transactions reported are few and straggling. Higher: Royal ⅛, Liverpool and London and Globe ⅜, London and Lancashire ⅛ to ⅜, Ocean Marine ⅛ Thames and Mersey Marine ⅛, and Lancashire and Yorkshire Accident 1-16. Lower: Manchester Fire ⅛, and Equitable Fire, &c., 1-.

COAL, IRON, &C.—This market has developed further strength, Bolckows and Ebbw Vales are about all that have changed hands here. Higher: Bolckows Ordinary fully paid ⅛ to ⅜, ditto £12 paid 1-16 to 3-16, Cammells 1, Dorman, Longs ⅛, Ebbw Vale ⅛, and Sheepbridge A ⅛. There are no adverse movements to set against the foregoing.

MISCELLANEOUS.—Gas Light and Coke A are 2 down, and Imperial Continental a similar amount up. Listers are enquired for at better prices. Rochdale Canal mark improvement of 1 to 2, and Suez Canal is 1½ higher. Manchester Ship Canal issues have dwindled away, the Ordinary and Preference both quoting 1-16 to ⅛ down on the week. Brunner Monds ⅛ down, Salt Unions and Alkali Ordinary each the turn better again. Bell's Asbestos are ⅛ to 1 higher. Other alterations are small in amount, but nearly all on the upward side.

LATER (4 p.m.).—In home rails, Lancashire and Yorkshire mark a further rise of ⅜, but they are exceptional, most others being the turn lower. Americans quite dull, and small declines are the rule for the day. Canadians have a similar record to Americans. In miscellaneous, coal and iron shares maintain their position, but Ship Canal issues are again easier.

COTTON SPINNING, &C.—Business has not yet been resumed to an extent where prices can be actually tested, but as regards what semblance of a market there is, it may, perhaps, be said that there is a trifle more disposition to buy at the low prices than there was before the holidays. This, however, without much, if any, advance in nominal figures.

MINES.—This market is neglected here so far as business is concerned, but prices bear reflection of other centres, with the following result:—Higher: De Beers, ⅛; Mysore Gold, 3-16 to ¼.—Lower: Rio Tintos, 5-16.

TELEGRAPHS, &C.—A few changes on the side favourable to holders are all there are to report. Anglo Ordinary are 1, and ditto Preference ⅛, Western and Brazils ⅛, and Eastern and West India and Panamas ⅛ each higher. Nothing to record re Telephone issues.

BREWERIES.—Allsopp's have kept strong maintaining and further improving on their recent rise. Guinness are 3, and several locals ⅛ and ¼ higher, without any showing decline in price.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, Stockbroker and Ironbroker (September 6), writes:—During the past week the markets have been steady owing to the more hopeful trade prospects, cheap money, and firm metal market. The coalminers' strike is now in its eleventh week without signs of settlement.

In shares of coal, iron, and steel companies prices show a general improvement. The meeting of the Steel Company of Scotland will be held on September 11, and that of the Shotts Iron on September 12. The Marbella output for August was 3485 tons. Bolckow Vaughan are at 12⅛, Ebbw Vale 9, Niddrie 40s. 3d., Rhymney Iron 32s., Stewart and Clydesdale 8, Wilsons and Clyde 11⅛.

In shares of copper concerns there has been less business doing, and the shares have drooped in sympathy with the market for the metal. Tharsis have declined to 94s. 6d. and Tinto from 15 to 14½. Arizona are at 9s. 6d.

In shares of gold and silver mines a fair amount of business has been done. The returns from the various Australian, African, and Indian mines for last month are coming out satisfactorily. Montana have been selling from 14s. 3d. to 15s. 6d. African Gold Recovery shares improved to 31s. 3d., and are now 30s. on the announcement that the legal difficulties about their patent have been settled in the company's favour. A dividend of 1s. will be paid in Frontino on September 15. Business has been done in Golconda shares on a favourable report from the mine. Newlands Diamond and Victoria and Altamira First Preference shares offered. Nouveau Monde wanted. American Belle are at 2s. 3d.; Alexandra Estates, 5s. 3d.; British South Africa Chartered, 36s. 6d.; Balkis Land, 32s. 6d.; Broken Hill Proprietary 60s.; Blue Spur, 2s.; Champion Reef, 74s. 6d.; Consolidated Gold Fields of South Africa, 48s.; Cassel, 15s.; Caratal, 9d.; Day Dawn P.C., 4s.; Don Pedro 5s. 6d.; Gold Fields of Mysore 23s.; Great Southern Tin and Gold, 11s. 3d.; Idaho, 2s.; Golden Gate (California), 5s. 6d.; Lisbon Berlyn, 3s.; Mexican Gold and Silver Recovery, 6s. 3d.; Mount Morgan, 50s.; Mysore Reef, 11s.; New Louis d'Or, 6s. 6d.; Oceana Land, 41s. 3d.; Otto's Kopje, 2s. 3d.; Pigg's Peak, 3s. 9d.; Sheba, 29s.; St. John del Rey, 26s.; True Blue, 2s. 9d.; Teutonia, 10s.; Tolima A. 9½; United Langlangte, 12s. 6d.; and West Australian Gold Fields, 50s.

In shares of miscellaneous companies there is no particular alteration to notice. There have been no dealings in oil companies shares except Young's Paraffin at 20s.; Nobel's Explosives are at 14⅜, and White Lead, 3s. 6d.

EDINBURGH.

Messrs. THOMA MILLER and SONS, Stock and Share Brokers, 69, Hanover-street, Edinburgh, report as follows under date of September 6:—In Home Railway Stocks, Caledonian Deferred Converted has had the most attention, the price having been affected by the dividend announced, and by the intended new issues of Ordinary Stock as well as by the enormous loss in traffic caused by the prolongation of the strike in the coal trade. The price has fallen from 44 15-16 to 41 5-16, and the dealings have been very numerous. The old Ordinary Stock has declined from 130 to 125½, and the Preferred Ordinary from 86⅞ to 84¼. North British has fallen from 39 13-16 to 37⅝, Glasgow and South-Western has risen from 108 to 110, and Great North of Scotland from 92⅜ to 94½. In Banks, British Linen has risen from 386 to 387, National from 337 to 338, Union from 22 3-16 to 22½, Royal has declined from 234½ to 233½, Clydesdale from 20 to 19. Insurance shares have been firm, and the changes are in favour of holders. In Mining shares, Cowdenbeath Coal have risen from 14⅛ to 15, Marbella Iron from 57s. to 62s. 9d., Wilsons and Clyde from 11d. to 11⅜d. Steel Company of Scotland shares have fallen from 52s. 6d. to 47s., Rio Tinto from 14⅛ to 14½.

METAL TRADE STATISTICS.

AUGUST, 1894.

COPPER.

(From Messrs Henry R. Merton and Co.'s Circular for August, 1894.)

	Aug. 31, 1894.	Aug. 15, 1894.	July 31, 1894.	31ST AUGUST. 1893.	1892.	1891.
STOCKS IN ENGLAND AND FRANCE:—	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Liverpool and Swansea, Chili Bars	34,077	33,819	33,748	29,681	30,827	20,379
" " Chili Ingots	800	930	930	92	784	200
" " Chili Ores and Regulus (fine)	14	108	197	403	173	49
" " Other Stuff (fine) & English Copper	7,372	6,202	6,677	3,669	10 705	11,364
London (including landing)	5,182	5,169	5,080	5,159	8,077	9,201
Stocks of fine Copper in Havre, Rouen, Bordeaux and Dunkirk	1,332	1,325	1,335	8,007	4,572	14,426
	48,807	47,653	47,975	44,011	55,118	55,679
ADVISED FROM CHILI by Mail and Cable, Fine Copper	2,650	2,350	2,400	3,100	3,650	3,001
" " Australia, by Mail and Cable, Fine Copper	950	950	950	750	950	950
	52,407	50,953	51,325	47,951	59,718	59,629
Price of Chili Bars and G.M.B.'s per ton	£40 7 6	£39 10 0	£38 2 6	£41 12 6	£44 7 6	£52 10 0

COMPARATIVE STATEMENT.

Month ending	Stock in England and France and Afloat thereto from Chili and Australia.	Price of G.M.B.	Arrivals: England and France.	Arrivals: Other European Ports.	Arrivals: England & France from Spain and Portugal (excluding Pyrites).	Arrivals: England & France from Other Countries.	Charters from Chili to Europe.	Shipments from Australia to London.	Total Supplies.	Total Deliveries. †
	Tons.		Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
31st August 1894	52,407	£40 7 6	3,426	4,641	1,494	3,973	2,000	550	15,884	14,602
31st July ..... "	51,325	38 2 6	3,455	2,365	1,569	1,816	1,800	550	11,195	9,942
30th June ..... "	50,672	38 5 0	2,716	2,945	818	3,522	2,000	850	13,001	10,509
31st May ..... "	47,510	38 17 6	2,778	2,759	1,976	3,023	1,850	550	12,936	12,162
30th April ..... "	46,805	39 17 6	3,559	2,511	1,157	2,977	1,650	600	12,654	12,445
31st March ..... "	46,297	40 15 0	2,546	3,096	1,184	1,699	1,500	550	10,575	11,342
28th February ... "	47,264	41 0 0	3, 98	3,176	647	764	1,950	550	10,385	10,173
31st January ... "	47,152	41 5 0	4,921	2,869	1,477	998	1,300	800	11,947	12,090
31st December ...1893	47,255	42 15 0	3,843	4,252	1,667	852	2,700	500	14,539	13,371
30th November "	46,827	43 0 0	6,146	4,388	1,322	5,664	1,400	450	14,400	20,613
31st October ..... "	48,140	42 2 6	7,097	6,275	959	3,082	2,200	1,000	20,553	20,517
30th September "	47,904	41 17 6	7,940	3,871	1,285	621	1,700	600	16,087	16,144
			51,240	43,588	15,178	28,903	22,400	7,050	169,356	163,910
31st August 1893	47,561	41 12 6	4,272	2,188	1,535	645	1,500	400	10,940	13,462
31st July ..... "	51,483	41 12 6	4,236	2,412	614	2,607	2,400	400	12,669	12,141
30th June ..... "	49,955	43 10 0	1,914	2,310	1,968	2,548	1,850	550	11,130	11,126
31st May ..... "	49,951	43 2 6	3,179	917	1,291	1,271	1,750	450	8,928	11,071
30th April ..... "	52,094	44 10 0	2,521	905	799	1,084	1,600	550	7,459	10,636
31st March ..... "	55,271	45 5 0	1,312	687	1,877	3,291	650	600	8,417	10,566
28th February ... "	57,420	45 12 6	1,821	632	1,170	2,785	3,000	450	9,858	10,945
31st January ... "	58,817	45 2 6	3,266	455	1,452	4,899	1,000	700	11,772	9,011
31st December ...1892	55,745	46 17 6	5,235	542	2,585	3,006	2,600	300	12,238	9,991
30th November "	53,498	47 17 6	2,852	693	690	1,725	1,500	700	8,060	10,640
31st October..... "	56,078	45 12 6	752	850	762	2,922	1,650	500	7,436	9,840
30th September "	58,462	44 2 6	1,048	535	1,619	2,315	1,750	400	7,667	8,803
			30,378	13,526	16,323	29,098	21,350	6,000	116,575	128,332
31st August 1892	59,718	44 7 6	2,687	324	965	2,583	1,900	400	9,059	9,079
31st July ..... "	59,738	44 17 6	2,693	590	2,146	3,744	2,200	600	12,023	8,289
30th June ..... "	56,604	44 17 6	2,909	416	2,345	4,745	1,600	300	12,315	9,676
31st May ..... "	53,965	46 7 6	2,841	664	2,288	1,215	2,150	500	9,658	9,521
30th April ..... "	53,828	45 12 6	1,968	1,284	2,422	2,968	1,500	100	10,242	10,725
31st March ..... "	54,311	46 5 0	2,260	1,667	2,012	2,013	1,750	300	10,002	12,472
29th February ... "	56,781	44 5 0	2,262	495	1,724	1,277	2,000	300	8,058	8,739
31st January..... "	57,462	44 12 6	2,809	893	750	1,571	1,525	350	7,898	6,460
31st December ...1891	56,044	46 15 0	1,720	1,575	2,049	3,305	1,200	600	10,449	12,025
30th November "	57,620	44 12 6	2,007	1,417	872	1,825	2,150	400	8,571	10,766
31st October..... "	59,815	46 5 0	1,427	1,244	1,754	4,893	900	800	10,998	10,633
30th September "	59,450	51 2 6	3,045	929	2,181	1,775	2,950	700	11,780	11,959
			29,028	11,298	21,488	32,114	21,725	5,400	121,053	120,984

† Including Chilian and North American for all Europe.

TIN.

(From Messrs. A. Strauss and Co.'s Circular for August, 1894.)

	31st July, 1894.	31st August, 1894.	31st August, 1893.	31st August, 1892.
	Tons.	Tons.	Tons.	Tons.
Straits and Australian spot	7,409	8,059	1,313	1,628
Ditto ditto landing	736	770	576	1,209
Straits, afloat	3,245	2,875	2,520	2,225
Australian, afloat	788	714	714	709
Banca, on Warrants	12,200	12,418	5,185	5,770
Billiton, spot	1,280	757	200	859
Ditto afloat	1,823	2,042	186	761
Straits, spot in Holland	790	1,060	1,280	1,400
	545	685	315	221
Total afloat for United States	16,638	16,962	7,166	8,991
Estimated stock in America	1,715	1,800	—	2,960
	956	1,725	6,610	2,810
Total	19,309	20,487	13,776	14,761
Prices of Straits and Australian	£65 17 6	£71 10 0	£78 5 0	£93 0 0
Deliveries during the month in London	1,025	1,473	2,065	1,190
Ditto ditto Holland	703	750	834	821
	1,728	2,223	2,899	2,011

Shipments during the month from Straits to London ... ... 2,250 Tons
" " " Australia to London ... ... 320 "
" " " London, Havre, and Holland to America ... 1,125 "
" " " Straits to America ... ... 375 "
" " " Australia to America ... ... 100 "
" " " Straits to Continent ... ... 75 "

	During 12 months ending Aug. 31, 1894.	During 12 months ending Aug. 31, 1893.	During 12 months ending Aug. 31, 1892.	During 12 months ending Aug. 31, 1891.	During 12 months ending Aug. 31, 1890.
Shipments from Straits to London	26,682	23,830	18,758	16,103	17,177
Shipments from Straits to America	5,710	6,140	9,185	11,242	6,430
Shipments from Straits to Continent	11,726	8,433	4,805	4,575	2,950
Ditto from Straits to Europe and America ...	44,118	38,373	32,728	31,920	27,207
Shipments from Australia to London	4,471	4,486	4,510	4,813	5,462
Shipments from Australia to America	300	300	800	700	905
Deliveries of Tin in London	18,952	16,799	15,430	17,185	17,414
Deliveries of Tin in London and Holland ...	26,821	24,872	23,593	25,285	25,686
Ditto in London, Holland, France, and U.S. ...	54,177	52,405	45,224	45,955	42,856

Banca in Trading Company's hands and afloat, 6325 tons.

PRICES: Straits and Australian, spot ... ... £71 10 0 three months ... £71 17 6
English Common ingots ... ... 73 10 0 refined 75 10 0
Banca ... ... 74 0 0 Billiton 72 0 0

THE MOUNT BISCHOFF TIN MINING COMPANY.

DIRECTORS' REPORT.

THE following is the report of the directors submitted to the shareholders at the general meeting of the company, held at Launceston, on Tuesday, the 31st July, 1894.

The accounts submitted at the last general meeting showed a balance to the credit of the profit and loss account of £33,678 0s. 9d., to which has since been added the sum of £26,021 16s. 4d., being the earnings for the past half-year, and £11 1s. for interest, making a total credit of £59,719 18s. 1d. Of this sum £22,500 has been distributed in dividends, and £843 15s. in dividend tax, leaving a balance of £36,376 3s. 1d. to the credit of the account. In addition to the ordinary expenses of the mine, £1893 2s. 10d. has been expended in connection with the water races, dams, &c, and £1547 8s. 5d. in the purchase and erection of new plant.

MINE MANAGER'S REPORT.

Operations during the past six months have been as follows:—

White Face.—Mining has been confined to the porphyry cutting, which has yielded stone of fair average quality. The face of the cutting is now 250 feet in length by 120 feet in width, and about 60 feet in height at the upper side. Tramroads to connect the stone and tailings heaps with the stonebreakers and hoppers have been constructed, the tailings being sent direct to the batteries, but the stone has to be first broken to a suitable size for crushing.

Slaughter-Yard Face.—Not a great deal of work has been done in extending this face, as the southern end was cut off by the porphyry dyke coming across from the Stanhope Company's property, and which forms portion of the outcrop known as the South lode. The stone has been rather poor and intermixed with iron pyrites, but further south there is some very good ore which leads me to infer that the formation has been faulted by the porphyry dyke. At the northern end of the face progress has been retarded by large quantities of stone and tailings, but the removal of these is effected as speedily as possible without interfering with other works. The principal work at present is cutting down all the clean ore and stripping the pyrites which are underfoot and rising on the western wall, and until this is completed the pyritous ore will remain untouched. The ore veins mentioned in my last report have not been touched except on the surface, but a tramroad is being constructed to work them as well as the stanniferous ground at a lower level.

Brown Face.—At present all the high level faces are in working order except where the recent rains have caused damage and broken connection. The greatest damage has taken place in the higher level face, where the ground connecting the hopper with the open tramroad has been broken down, and which will have to be removed before work can be resumed. This will be a serious inconvenience as we are short of mullock tips, but it will be surmounted by storing the large lumps of slate on worthless ground and sending the fine dirt to the batteries. The slip has exposed numerous clay veins carrying fine tin ore. To establish connection with the hopper will take some time, and in the meanwhile the other faces will have to furnish the requisite material for the batteries. In future the three principal faces will be the East, Middle, and West. The permanent double tramroad connecting the East face with the hopper is now completed, and the Middle and West faces are in working order and the tramroads will be taken in hand as soon as the necessary preparations are completed. The open cut system will then be extended so that horse power may be used for all the heavy work. In the three faces mentioned there will be a great variety of dirt which will mix well with the porphyry ore from the other faces. In addition to the slip referred to, we had three others—one was beneficial as it brought down a large quantity of crush dirt, but the other two were different, as the debris consisted of barren rock, which was difficult to remove and covered up payable dirt.

Underground Workings.—Under this heading very little work has been done as the Waratah adit got into very hard ground and I withdrew the men and put them to more profitable employment. The total length of the adit is 381 feet. The prospecting drive in the Slaughter Yard face has been extended 117 feet, part of it being through ferruginous slate, latterly in clay (kaolin) intermixed with fine tin ore, but not of a payable character, and finally in hard rock charged with pyrites. As there was no space available for a mullock tip work was discontinued, but will be resumed as soon as possible, with the object of finding the lode which doubtless furnished the stone found in the wash dirt.

Queen Lode.—In this portion of the mine some good work has been done, but not so much as might have been accomplished had the weather and other conditions been more favourable. The surface cutting has been extended westward to the limit of the payable ore, and the next work will be to continue it underfoot, but as the lode is lying rather flat it will be necessary to make an alteration in the system of working. The stone is very good, but the lode is not quite so strong as in the top cutting, and varies from 1 foot to 4 feet in width.

North Valley.—The result of the last six months' work has not been so good as anticipated, owing to the percentage of ore being less than expected, and the low price of tin. The ore is also of a very refractory nature and requires special treatment, which increases the cost of production. The lode formation is very strong, being from 4 feet to 9 feet in width in the shoot, and has a particularly good feature—that the prospects improve as depth is attained. No. 2 adit has been driven 122 feet, making the total length 1605 feet. For a portion of the time only two shifts were employed. The general character of the ground is hard, with soft patches through the country, which invariably show good ore on the footwall, but as they are limited in extent cannot be called payable, but the indications are encouraging, and we may expect something better when we get nearer to the Brown Face formation. The furnace and machinery have worked well, but as the output is not sufficient at the present low price of metal to leave a profit, I have decided to temporarily close the sheds, and as everything in connection with them will be kept in good condition, work may under favourable circumstances be resumed at any time.

Waratah Shed.—The past six months have represented two extremes. During the first three months the weather was dry and water scarce, and crushing could only be carried on on a small scale, while the last three months have been the reverse, and resembled the climate of years past. In former times a superabundance of water was beneficial, but the recent heavy rains have caused damage and inconvenience at the mine and dressing sheds. The foregoing will account for the falling off in quantity of material treated, which is as follows:—60 H.B., 29,500 tons, producing 753 tons 1 cwt. 3 qrs. ore; 15 H.B., 9000 tons, 221 tons 16 cwts. 2 qrs. ore. It is gratifying to find that the return of dressed ore compares favourably with that of the previous half year, although upwards of 10,000 tons less have been treated. As is always the case after a general overhaul, the machinery has worked well and is in excellent condition.

Slime Sheds.—The machinery has been kept in good working order, and whenever it has been possible to do so improvements and savings have been effected. The output for the six months is 66 tons 4 cwts.

70 Feet Shed.—As usual, the machinery in this shed has worked well. The output of ore is 72 tons 6 cwts. 3 qrs.

Ring Tail Shed.—Very little work has been done in this shed during the half year, as the small quantity of refuse coming from the mine has been stored in the gully, but the machinery has been kept in a thoroughly efficient state so that work may be resumed at any time. Output, 2 tons 10 cwts.

Catch-'em Sheds.—Considering the poorness of the sand the output of ore, 25 tons 17 cwts. 3 qrs., is very satisfactory. Machinery is in good order.

Tributes.—At present there is only one party at work, the others having worked out their ground. The ground is very poor, and would never have paid the company to work. The ore obtained during the six months is 2 tons 2 qrs. 14 lbs.

Stone Breakers.—Two of these machines are in full work and in good order, and the third is in position, and will be got ready when opportunity will permit.

Workshops.—The mechanics have been fully occupied with new work or effecting repairs, as they have to execute all work for the sheds as well as for the mine. At present all the trucks are undergoing repair, as the frames show great wear, and it will take some time to put them in good order.

Foundry.—This is a most important branch of the establishment, and the moulder is fully employed throughout the year.

Flumes, Races, Dams, and Reservoirs.—All the flumes at the Ring Tail and the Fossey will shortly require attention. The former needs an entire renewal, and the latter only the older portion, but even those parts which were repaired with timber which appeared perfectly sound are already showing signs of decay, and will not last so long as expected. The Waratah flume and that passing round the cliffs from Falls Creek are in good order, as well as those at North Valley. Certain repairs will be effected during the winter where necessary, and timber will be cut this season for next year's repairs. I estimate the quantity required will be about 100,000 superficial feet. The races are all in good order. The only work of importance under this heading is the Falls Creek reservoir, which will hold a body of water about 32 feet in depth. The masonry was commenced about 15 months since, and is over 7 chains in length, with the height already stated, and will be completed in two months' time. In the execution of this work we have been fortunate in having a quarry close at hand containing first class stone. To complete the earthwork will take somewhat longer than for the completion of the masonry, as there is some difficulty in procuring suitable material. When the work is thoroughly consolidated, a roadway will be formed on the embankment.

Water Supply.—With the exception of the first three months of the year, the water supply has been more than sufficient for our requirements. With the exception of the repairs to which allusion has been made the works are in good order.

Railways and Tramways.—The railway is in good working order, and will require only ordinary supervision. At the mine, with the exception of the middle road in the Brown Face, the tramways are in good condition, and any repairs will be attended to as they are required.

Rolling Stock.—The locomotives are in first class order, and the wagons are being thoroughly repaired.

Electric Light.—This plant continues to give great satisfaction and works most satisfactorily.

Buildings.—No new buildings have been erected since last report, but all necessary repairs have had attention whenever carpenters were available.

The quantity of ore obtained during the past six months and since the formation of the company is as follows:—

	Tons	c.	qr.	lb.
Obtained during the last six months	1,069	3	0	1
Since the formation of the company	43,867	16	1	16

SMELTING MANAGER'S REPORT.

The smelting operations for the half-year ending 30th June, 1894, have been as follows:—The total quantity of ore smelted is 2119 tons 2 cwts. 24 lbs., yielding 1425 tons 10 cwts. 1 qr. 4 lbs. of tin. Of this 1072 tons 12 cwts. 3 qrs. 27 lbs., yielding 721 tons 3 qrs. 3 lbs. of tin was smelted on account of the company; and 1046 tons 9 cwts. 25 lbs., yielding 724 tons 9 cwts. 2 qrs. 1 lb. of tin, on public account. The average assays of the refined tin is 99·89 per cent., and the slag 5·3 per cent. The furnaces and plant are all in good working order.

REPORTS FROM THE MINES.

We find it necessary to announce that, owing to the vast numbers of mines, reports, and items of mining intelligence which reach us invariably very late—up to, and frequently after the time of going to press—it is impossible to guarantee the insertion of all of them in the issue in which, in ordinary course they should appear. We always endeavour, however, to make this important feature as complete as possible, and if the secretaries of mining companies, mining captains, and others would kindly make an effort to let their reports, etc., reach us early on Fridays, when it is not possible to let us have them earlier in the week, their doing so would go far to ensure their insertion, and to promote the completeness of our Mining Intelligence.

BRITISH MINES.

CARN BREA.—August 31: Highburrow west. The lode in the rise in back of the 310 fathom level west is worth £12 per fathom. Rise up 10 fathoms. The lode in the rise in back of the 298 fathom level west is worth £30 per fathom.—Highburrow east. Harvey's engine shaft is sunk to 8 fathoms below the 322 fathom level. We consider that we have got through the elvan, the whole of the shaft being in granite, and we look upon this change as being favourable for meeting with the lode more productive at the next level south of the shaft. The lode in the 310 end east of Harvey's shaft is worth £22 per fathom. Good work is being done in driving this end by boring machinery, 5 fathoms having been driven during the past fortnight. The last 20 fathoms of this level have been through fairly productive ground, and when made available for stoping, should prove an addition to the returns of this part of the mine. The lode in the 286 end east of Harvey's shaft is worth £12 per fathom.—Old sump. The engine shaft is sunk 8 fathoms below the 256 fathom level; the character of the ground appears to be changing, and showing more favourable indications. The lode in the 256 end east of crosscut on Druid's lode is worth £8. The lode in the winze sinking below the 244 fathom level east on Druid lode is worth £10 per frthom; in the 244 end east on Druid lode £10 per fathom. We are pleased to report a satisfactory month's work with our six boring machines, having driven and risen about 40 fathoms. With this speed for development we hope soon to report an important discovery.—(Signed) W. T. White and Agents.

COOK'S KITCHEN.—September 1: The 420 fathom level is driven 4½ fathoms west of engine shaft. The lode is producing a little tin, and is of a promising character. At the 420 east of the engine shaft we are at present stoping the bottom of the level driven west from No. 3 winze, where the lode is worth for 6 feet wide £18 per fathom. There are about 5 fathoms more to stope to complete this level to the eastern end of the winze. The other ends eastward are of about the same value as last reported.—Josiah Thomas, Charles Thomas, Thomas Uren.

DEVON GREAT CONSOLS.—September 6:—Wheal Anna Maria, engine shaft. In the stope in the bottom of the 110 fathom level east the lode will yield 12 tons of mundic per fathom, a good lode. In the stope in the back of the 110 fathom level there is also a good lode yielding 6 tons of copper ore and 6 tons of mundic per fathom.—Field shaft, south lode. The stope in the back of the 130 fathom level east is turning out 10 tons of mundic per fathom.—Wheal Josiah, Richards' shaft. In the stope in the bottom of the 115 fathom level east the lode will yield 9 tons of mundic per fathom.—Agnes' shaft. In the stope in the back of the 143 fathom level west the lode will produce 2 tons of copper ore and 2 tons of mundic per fathom.—Wheal Emma, Thomas's shaft. In the stope in the bottom of the 100 fathom level east the lode is yielding 3 tons of copper ore and 10 tons of mundic per fathom. In the stope in the bottom of the 100 fathom level east there is a large and productive lode yielding 2 tons of copper ore and 16 tons of mundic per fathom. The stope in the back of the 100 fathom level east will yield 1 ton of copper ore and 12 tons of mundic per fathom.—Inclined shaft. In the stope in the back of the 150 fathom east the lode will yield 1 ton of copper ore, 15 tons of mundic per fathom. In the No. 2 stope in the back of the 150 fathom level the lode is producing 2 tons of copper ore and 4 tons of mundic per fathom. The stope in the back of 112 fathom level west is yielding 5 tons of mundic per fathom. In the stope in the bottom of the 100 fathom level west, the lode will yield 1½ tons of copper ore and 1 ton of mundic per fathom.—New shaft new south lode. The stope in the bottom of the 110 fathom level east and west will yield 2 tons of copper ore and 8 tons of mundic per fathom. In the stope in the back of the 130 fathom level east the lode will produce 1 ton of copper ore and 3 tons of mundic per fathom.—Watson's engine shaft. In the 172 fathom level east the lode is 4 feet wide producing 1 ton of copper and mundic ores per fathom. In the rise in the back of the 172 fathom level east the lode is 4 feet wide yielding 3 tons of copper and mundic ores per fathom for length of rise, 9 feet. In the 160 fathom level east the lode is 3 feet wide containing a little mundic. This end is temporarily suspended, the men being engaged in sinking a winze in the bottom of the 160 fathom level. In Harvey's winze sinking below the 160 fathom level the lode is 4 feet wide yielding 4 tons of copper and mundic ores per fathom for the length of winze 9 feet. In the 148 fathom level east the lode has improved, and is yielding 4 tons of copper and mundic ores per fathom. In the stope in the back of the 170 fathom level east the lode is worth 5 tons of copper and mundic ores per fathom. The stope in the back of the 160 fathom level east is yielding 6 tons of mundic and copper ores per fathom. The stope in the back of the 160 fathom level west is worth 4 tons of copper and mundic ores per fathom. In the stope in the bottom of the 148 fathom level east the lode is yielding 5 tons of copper and mundic ores per fathom. The stope in the back of the 136 fathom level west is yielding 4 tons of copper and mundic ores per fathom. The machinery throughout the mines is in good order, and all the surface operations are in full work.—(Signed) William Clemo.

GREEN HURTH.—August 31: Ore in stock, August 3, 125 tons 16 cwts.; raised for month, 36 tons; total 161 tons 16 cwts. Delivered, deduct 34 tons; in stock, 127 tons 16 cwts.—Annie's vein. The south forehead continues poor, worth 1 ton per fathom. The ore is carrying higher in the roof consequently we have now two headings in the back of this level; these workings are worth respectively 1½ and 3½ tons per fathom.—South-west branch vein. At the south end the vein is nipped and poor, worth 18 cwts. per fathom.—West crosscut south of Swan's shaft. Last week I informed you that we had intersected the south-west branch vein, having then met with a rib of ore 6 inches wide; this appears to be only part of the vein, therefore will continue the crosscut a little further west.—W. Gray.

NEW MINERA.—Mining report for the two weeks ending August 29: The whole of the workings in the ore ground will be stopped in a few days, and the driving of the main level east of the crosscut in the 315 yard level only continued. In this level the lode looks better and there is a slight change in the ground.—Dressing. 24 tons blende and 10 tons lead ore have been sent off since last report, making the total quantity sold 4298 tons blende and 1730 tons lead ore.

WEARDALE LEAD.—Report on Weardale Company's mines for week ending September 1: Groverake. Adamson's drift west, vein 3 to 4 feet wide of spar, worth 18 cwts. per fathom. Firestone drift west, strong sparry vein, poor in ore, worth 6 cwts. per fathom. Firestone drift east, sparry vein, poor in ore, hard to work, worth 8 cwts. per fathom. Loop level to take water from Rake level, sparry vein, no ore to value. Groverake cubic fathom stopes worth 14, 16, 14, 14, 14, 12, 14, and 10 cwts. per fathom. Tribute ore for the week 25 bings. Boltsburn. Stopes above Watts' level in vein worth 12 cwts. per fathom; in north flatt worth 16 cwts. per fathom, in south flatt worth 20, 34, 16, 36, 30, 20, 20, 18, 16, and 20 cwts. per fathom. Greenlawes. Nattrass Gill drift, stopes worth 15, 15, 18, and 14 cwts. per fathom. Lowe's drift, Walton's rise continues hard and nipped in scar limestone. Lee's sump, the stope continues a strong sparry vein, fairly well mixed with ore, worth 28 cwts. per fathom—Sedling. 64 level east, vein looks better in the roof, firm ground, worth 14 cwts. per fathom. Stopes above 64 level east worth 14, 16, 16 and 18 cwts. per fathom. Stope above 64 level west worth 18 cwts. per fathom. The crosscut from the 74 level has been continued 2 feet through the vein; and composed of hard rider, quartz, spar, and a little ore. We shall now drive east and west in the vein. Sinking below the 74 level is now down 1 fathom in the scar. Limestone ground very hard. Stobb's drift, south vein, stope worth 12 cwts. per fathom. Ore raised for week, 65 tons; ore dressed for week, 80 tons; ore, slag and fume smelted for week, 137 tons, producing 72 tons of pig lead.

WEST KITTY.—St. Agnes, Scorrier, Cornwall, September 6: The 108 fathom level west is worth £7 per fathom. The rise in back of this level is worth £7 per fathom. The 94 fathom level west is worth £8 per fathom. The winze in botton of 94 fathom level is worth £8 per fathom. The 84 fathom level west is worth £12 per fathom. The 60 fathom level east and south of slide is worth £12 per fathom; this end is about 70 fathoms short of boundary. The 60 fathom level west and south of slide is worth £15 per fathom; this end is about 150 fathoms short of the boundary. The rise in back of this level is worth £10 per fathom. Our stopes and tribute pitches continue to yield the usual quantity of tin. The work in connection with the cutting down of Thomas's shaft, and building of the engine-house is proceeding very satisfactorily.—(Signed) John Williams, Joel Hooper.

COLONIAL, INDIAN, AND FOREIGN MINES.

ALAMILLOS.—Mine report dated August 29: The lode has greatly improved in value in the 85 fathom level, driving west of Taylor's engine shaft, and is now valued at 1 ton per fathom. In the 160 west of the same shaft worth ½ ton per fathom. The lode has declined in value. The lode in the 100 west of Judd's engine shaft is somewhat disarranged by cross courses; valued at ½ ton per fathom. In the 100 east of the same shaft the lode has become unproductive. Good progress has been made in sinking Miguels winze below the 20 fathom level, valued at 1 ton per fathom.—Carillo's winze sinking below the 145 fathom level. This winze is situated west of Taylor's, and in advance of the 160 fathom level. The stopes continue to turn out well. Surface works are kept on very regularly, and the machinery is in good working condition. Estimated raisings for September 250 tons. The tributers returned 30½ tons of mineral in the past month.

FORTUNA.—Mine report dated August 29: Canada Incosa Mine. In the 150 fathom level driving west of O'Shea's engine shaft the lode consist of one small vein of ore. The 110 west of San Pedro's shaft has again improved and looks promising; worth ½ ton per fathom.—Los Salidos Mine. The 200 east of Taylor's engine shaft continues to open out profitable stoping ground; valued at 2 tons per fathom. The lode in the 105 east of Palgrave's shaft turns out some good lumps of ore; worth ½ ton per fathom. Lucas' winze sinking below the 92 fatbom level worth ½ ton per fathom; this is going down in a regular lode of a kindly appearance.

LINARES.—Mine report dated August 21: Pozo Ancho Mine. The lode in the 200 fathom level driving west of Peill's engine shaft is small and unproductive, and the granite is hard for driving through. In the 155 west of the same shaft, worth 1 ton per fathom. The lode is compact, and continues to look promising. The lode in the 178 west of Warne's crosscut is disarranged by crosscourses. No. 276 winze sinking below the 178 fathom level, this winze is going down steadily in a large open lode which contains stones of ore. The stopes continue to yield well. Surface works are kept on very regularly, and the machinery is in good working order. Estimated raisings for September 200 tons. The tributers returned 125¾ tons of mineral in the past month.—Los Quinientos Mine. Taylor's engine shaft. In the 185 east the lode is compact, and produces some stones of ore. The 165 east, worth 1½ ton per fathem; this is a large strong lode composed of quartz and lead ore. The lode in the 150 east continues very large, but does not contain enough ore to value. In the 130 east nothing of value has been met with. Barranco's winze, sinking below the 165 fathom level the lode contains some spots of ore but not sufficient to value. Louis winze below the 130 fathom level, valued at 1 ton per fathom. This winze is situated east of Taylor's shaft. The lode is fairly productive. Estimated raisings for September 150 tons. The tributers returned 46¼ tons of mineral in the past month.

Continued on page 992.

LATEST FROM THE MINES.

CABLEGRAMS AND TELEGRAMS.

ASIA MINOR.—Production to August 18: Lidjessy Mines, 3788 tons crushed, yielding 279¼ tons rich silver lead.

AMANA.—The following cablegram has been received from the mine:—"We have finished the upraise from the lowest level. The workings in the upper part of the mine are not looking so well. We have raised 113 tons of ore during the past month."

AZTEC.—The directors have received a cablegram from the mines to the following effect:—"The new 40-stamp mill has been started, and is working splendidly. A fresh valuable ore-body has been struck, August 23, in the upraise from the Corcoran level. Up to the present this ore body has been exposed for 40 feet in length and is 10 feet wide, the assays averaging $12 per ton."

ANTIOQUIA (Frontino).—The directors have received advices from Mr. J. H. White and from Messrs. Restrepo, for the months of April, May, and June, 1894. The statement for such three months is as follows:—"Estimated value of the gold £661 4s. 7d., cost at the mines, Medellin, and in London £651 3s. 5d., estimated profit £10 1s. 2d. The above item of cost includes £48 19s. 11d. expended on capital account.

ARIZONA COPPER.—The following cable has been received from Clifton: "330 tons of black copper and 56 tons of matte produced during the month of August." This is equivalent to about 369 tons of black copper.

BRILLIANT BLOCK.—The following cablegram has been received from the head office in Charters Towers:—"Have crushed during the fortnight 1188 tons of quartz for a yield of 948 ounces of gold. The profit on the run is £1400. Now commencing to crush with 40 head of stamps." The approximate value of this return is £3250.

BALAGHAT MYSORE.—The directors have recived a telegram from the mine, giving the return of gold for the month of August as follows:—"400 tons of quartz produced 759 ounces of gold, being total production for the month."

BAYLEY'S REWARD.—Week's run, 700 ounces, 84 tons.

CASSEL COLLIERY.—A cablegram received gives the output for the month of August as 12,208 tons.

CHAMPION REEF.—The directors have received a telegram from the mine, dated September 4, giving last month's return of gold as follows:—"3850 tons of quartz produced 5257 ounces of gold. 1100 tons of tailings produced 244 ounces of gold. Total production for month 5501 ounces of gold."

CRAVEN'S CALEDONIA.—The following cablegram has been received, giving result of the crushing for the past fortnight:—"200 tons, yielding 345 ounces gold. Partial clean up."

CHIAPAS.—The directors have received the following cablegram; "During August the mill ran 30 days, 1900 tons of ore were crushed, yielding 69 tons of concentrates."

CROWN REEF.—Results for August: Yield in smelted gold from 120 stamp mill 6613 ounces; yield in smelted gold from 120 stamp cyanide works treating tailings and concentrates produced by the mill 2697 ounces; yield in smelted gold from old cyanide works treating accumulated stock of tailings and slimes 1425 ounces; total 10,735 ounces.

CUMBERLAND GOLD.—The directors have received the following cablegram:—"Tailings works recovered 433 ounces from 374 tons at a cost of £240. Estimated value £900."

EL CALLAO.—Messrs. Baring Brothers and Co. (Limited) have received the following telegram from El Callao Mining Company:—"701-725 ounces of gold produced for the month by El Callao Mine, and 1501-1525 ounces by the Colombia Mine."

ELKHORN.—Bullion produced in the mill for the week ended September 1, 8957 ounces.

FORBES REEF.—A telegram has been received from the mines, stating that the result for the month of August is 280 ounces of gold.

FRANK JOHNSON AND CO.—The following cablegram has been received from South Africa:—"Mill working day and night. Auriga plates look very favourable. Trial crushings, from all I can find out, give 15 dwts. per ton. Rich strikes have been made at several places at Concession Hill."

GELDENHUIS MAIN REEF.—1429 ounces 14 dwts. gold realised £4702 10s. 3d.; net working expenses for July, £3624 11s. 3d.; profit for the month of July, £1077 19s.—"In the working expenses is included all development work, which is now well ahead of the mill—so much so that the manager has recommended an immediate addition of five head of stamps to the mill."

GELDENHUIS MAIN REEF.—Results of August crushing 1140 ounces from mill and 545 ounces from cyanide, total 1685 ounces of gold; profit for the month £2000.

GEORGE GOCH AMALGAMATED.—Result of work done during August—5711 tons crushed, yielding 1724 ounces gold, and 1371 ounces from tailings; 50 stamps at work. The return for July was 2950 ounces.

GOLCONDA.—The secretary of the Golconda Gold Mines (Limited) advises that a cablegram has been received from Mr. Hugh Walker, manager of the mine, as follows:—"Both levels north faces, rich in visible gold. New ground."

GOLDEN FEATHER CHANNEL.—A cablegram from Colonel McLaughlin has been received as follows:—"Will be sluicing 250 feet above new foot-dam by 10th to 15th September."

GOLD FIELDS OF MASHONALAND.—Cotopaxi Mine: The following cablegram has been received from Victoria (Mashonaland) announcing the result of the second month's crushing:—"During the month of August mill crushed 340 tons, yielded 111 ounces of gold."

GUADALCAZAR QUICKSILVER.—The quantity of quicksilver drawn off during the five weeks ended August 30, as cabled from the mines, amounts to 12,800 lbs.

GREAT BOULDER.—The following telegram has been re-received from the manager: "Lake View battery not yet available.—Great Boulder ore crushed in mill: Otis, 30 tons, yielding 155 ounces. Cannot crush more for the present." We are informed that arrangements had been made with an adjoining company to crush 100 tons of the ore now lying on the surface, but that, owing to their machinery not being complete, the 30 tons have been put through a small plant owned by the Ivanhoe Company.

HAMPTON LANDS AND RAILWAY.—The following cablegram has been received from Mr. R. H. Lapage, one of the directors, who is at Coolgardie:—"Gold has been discovered in Towsite Reefs. We have found there is abundance of salt water at Wollubar at a depth of 3 feet."

ISLE OF MAN.—The secretary sold on Tuesday 100 tons of this company's ore at £7 13s. 6d.

JUBILEE.—Result of last month's crushing—3176 tons—yielded 1829 ounces of gold and from tailings 498 ounces.

KOFFYFONTEIN.—For the four weeks ending July 4 22,246 loads of yellow ground were hauled and 16,400 loads washed, yielding 758 carats, at an estimated cost of £880 5s. 6d.

KELLY'S QUEEN BLOCK.—Messrs. Burkitt, Munro and Co., of 16, Cornhill, E.C., have received the following telegram, dated Brisbane, September 3:—"Kelly's Queen Block crushed 280 tons for 504 ounces, and declared a dividend of 6d. per share."

LAS CABESSES MANGANESE.—Production for the week ending September 1 (6 working days) 689 tons, or a daily average of 114 tons.

LANGLAAGTE ROYAL.—Production for August 5005 ounces, profit £7700, £1700 spent on extra development. This is 986 ounces better than the previous month.

LE CHAMP D'OR.—The following cable has been received from the manager of the mine:—"During the month of August mill worked 30 days, crushed 4500 tons, yielding 2800 ounces. Tailings 4600 tons yielding 1550 ounces. Total 4350 ounces gold."

MARBELLA IRON ORE.—The directors have received the following telegram from the mines:—"Output of ore for August 3485 tons."

MILL'S DAY DAWN UNITED.—The following cablegram has been received from the head office in Charters Towers:—"Have crushed during the month 3746 tons of quartz for a yield of 4774 ounces of gold. Have declared the usual dividend of 6d. per share, payable 25th inst." The approximate value of this return is £16,450.

MOUNT LEYSHON.—The Mount Leyshon (Limited) have received the following cablegram, dated 4th inst., from their manager at Charters Towers, giving the fortnightly crushing:—"1600 tons crushed 252 ounces gold; 40 stamps mill ran 12 days. Profit £62."

MOUNT MORGAN (Queensland).—Results for the month of August:—Tons chlorinated, 6829; gold returned, 10,092 ounces.

METROPOLITAN GOLD.—During August crushed 0 tons obtained 1180 ounces gold.

MONTANA.—By cablegram from the mine the directors are informed that the total output for August was:—Gold, 2840 ounces; and silver, 31,190 ounces. The estimated realisable value of the same is $74,900. The tonnage of ore milled during the month was 6350 tons, 110 stamps having been in operation.

MYSORE REEFS.—The directors have received a telegram from the mine, dated September 6, giving last month's return of gold as follows:—"51 tons of quartz produced 60 ounces of gold."

MYSORE GOLD.—The directors have received a telegram from the mine, giving the return of gold for the month of August as follows:—"5420 tons of quartz produced 3771 ounces of gold. 4415 tons of tailings produced 755 onnces of gold. Total production for the month 4526 ounces of gold."

NERBUDDA COAL AND IRON.—The sales of coal for the month of July amount to 914 tons.

NEW QUEEN GOLD.—Result of the crushing for the past fortnight:—"No. 1 formation, 250 tons, yielding 295 ounces gold. Started crushing No. 4 formation August 24. Shipping per s.s *India* 688 ounces."

1 NORTH GLANMIRE.—Mr. Samuel James, of 3, Copthall Chambers, E.C., has received the following cablegram from Gympie, dated 4th inst.:—"1 North Glanmire—Crushed 603 tons, yielding 1758 ounces of gold; dividend declared 4s. per share."

NIGEL.—Last month's crushing yielded:—Battery, 2620; cyanide, 1930; total, 4550.

NEW CLEWER ESTATE.—Results for August: From mill working 29 days, crushed 2084 tons yielding 1053 ounces of gold; from cyanide works, treated 1960 tons yielding 995 ounces of gold; total yield 2048 ounces of gold; total value £6041.

NEW LOUIS D'OR (Main Reef).—The following cable has been received from Mr. Hill:—"Have discovered another rich reef on the property."

NEW HERIOT.—Last month's crushing yielded 4203 ounces.

NUNDYDROOG.—The directors have received a telegram from the mine, giving the return of gold for the month of August as follows:—"2550 tons of quartz produced 2911 ounces of gold. 640 tons of tailings produced 109 ounces of gold. Total production for the month 3020 ounces of gold.

ORION.—Result of last month's crushing yielded 2650 ounces. of gold; from plates 1200 ounces and from tailings 1450 ounces.

OOREGUM.—The directors have received a telegram from the mine, dated September 4, giving last month's return of gold as follows:—"4081 tons of quartz produced 4169 ounces of gold. 4928 tons of tailings produced 1038 ounces of gold. Total production for the month 5207 ounces of gold."

ORION.—Following are the details of work done on this company's property for the month of July:—4660 tons milled, 40 stamps working. Mill ran 24 days. Yield from plates, 1229 ounces of gold; tailings treated by cyanide, 2592 tons: yield of bullion from cyanide works, 1470 ounces. Net profit for month, £3548 5s. 2d.

PESTARENA UNITED.—Gold returns for August, 806 ounces from 440 tons, equal to 1 ounce 16 dwts. 15¼ grains per ton.

ROBINSON.—Production for August, by cable:—Mill, 70 stamps at work, 9507 tons of ore crushed, yielded in smelted gold 9030 ounces, from concentrates (by chlorination) 1160 ounces, from tailings (cyanide process) 1958 ounces, from own ore 12,148 ounces, from concentrates bought (by chlorination) 2371 ounces, total gold recovered 14,519 ounces.

SALISBURY.—Result of last month's crushing 1800 ounces.

SHEBA.—The following cablegram has been received from the general manager for the month of August:—"4200 tons of ore crushed, yield 2960 ounces; 6500 tons of tailings treated, yield 3915 ounces; 87 tons of concentrates, assay value 709 ounces; total, 7584 ounces, against 8122 ounces for the previous month."

SOUTH GLANMIRE AND MONKLAND.—Mr. Samuel James, of 3, Copthall Chambers, E.C., has received the following cablegram from Gympie, dated the 3rd inst.:—"South Glanmire and Monkland crushed 965 tons, yielding 579 ounces of gold; dividend 3d. per share."

TOLIMA.—The following cablegram has been received from our mines:—"Estimated profit for August over £2300. In the above return silver is valued at 29¾d. per ounce."

TRANSVAAL GOLD EXPLORATION AND LAND.—The directors have received the following telegram:—"Ore mined 1350 tons, ore treated 950 tons, yielding 1425 ounces, tailings treated 75 tons, yielding 480 ounces. Total for August 1905 ounces. Expenses will be published as soon as received."

TWIN LAKES PLACERS.—The managing director reports that during the month of August 160,000 cubic yards of gravel were washed, and bullion was produced of the estimated value of $19,700 of which $14,123 have been remitted by draft to London.

UNITED IVY REEF.—The crushing during last month yielded 170 ounces; the tailings produced 52 ounces, making a total of 222 ounces for the month.

VAN RYN.—Result of 27 days' working 1468 ounces Crushing with 45 stamps from 3800 tons.

VICTORY (Charters Towers).—The London office has received the following cablegram from the head office in Sydney:—"Crushing (for the fortnight) from No. 1 shaft 94 tons for 162 ounces; crushing (for the fortnight) from No. 2 shaft 190 tons for 150 ounces—total 284 tons for 312 ounces of gold."

WEST AUSTRALIAN GOLD CONCESSIONS.—Shaft down about 46 feet on reef. Now sinking an underlay. Depth at present 30 feet. Two more shafts 20 feet deep not mentioned in report; have each got a reef.

WORCESTER EXPLORATION.—Result of last month's rushings yielded 2558 ounces of gold.

SMITH, GARRETT, AND CO.

Ten per cent. in dividends.—The rise in malt and hops.

The annual general meeting of Smith, Garrett, and Co. (Limited), was held on Wednesday at the brewery, Bow, under the presidency of Mr. HERBERT COWELL.

The SECRETARY (Mr. A. H. Norman) read the notice convening the meeting.

The directors reported as follows:—The directors have the pleasure of presenting to the shareholders the twelfth annual report, statement of accounts and balance sheet for the year ending June 30th, 1894. The net profits of the business (including the balance of £13,851 9s. 5d. brought forward from last year's account) amount to £39,912 14s. 8d. After deducting the interest paid on the preference shares, and the bonus of £350 voted to the staff, there remains a balance of £32,062 14s. 8d. Out of this sum the directors propose to declare a dividend on the paid up ordinary share capital at the rate of £10 per cent. per annum. An interim dividend for the half-year at the rate £5 per cent. per annum having been paid on account in February last, your directors now recommend that dividend warrants for the balance be forthwith issued. This will leave a sum of £16,291 11s. 3d. to be carried forward to next year's account. In accordance with the Articles of Association, Mr. Herbert Cowell retires from the board of directors. Being eligible, he offers himself for re-election.

The CHAIRMAN said: Gentlemen, as the report states, there are profits available which enable us to pay a 10 per cent. dividend, carrying forward a substantial sum. That is a satisfactory result of the year, although, no doubt, it does not compare quite favourably with that of the year before, owing to some things that have told against us—namely, the rise in the price of malt and hops, our having to apply a larger sum than usual both to repairs and bad debts, as well as to depreciation, and the increase of the beer duty, which has been in operation for some three months. The resolution which I have to propose is: "That the report of the directors and statement of accounts and balance sheet for the year ended June 30th last be received and adopted." If any shareholder present wish to ask any questions, now would be the opportunity, before this resolution is put. I think it is unnecessary for me to make any detailed statement, considering that the outturn is as satisfactory as the shareholders could reasonably expect. (Hear, hear)

Mr. EDWARD CARTER seconded the motion, which was then put and carried unanimously.

The CHAIRMAN moved: "That the balance of a dividend at the rate of 10 per cent. per annum on the paid-up ordinary share capital of the company be sanctioned, less income tax, the amount payable with respect to the call due March 1 being calculated for the broken period."

Mr. JAMES GARRETT seconded the motion, which was put and carried.

Mr. G. H. SWONNELL proposed the re-election of the retiring director (Mr. Herbert Cowell), which was seconded by Mr. EDMUND GARRETT, and carried.

On the motion of Mr. JOHN DORE, seconded by Mr. FLATT, the retiring auditor (Mr. R. H. Woodman, F.C.A.) was reappointed.

The CHAIRMAN moved: "That the sum of 300 guineas be given to the staff in such proportions as the managing directors deem advisable.

Mr. A. WALTON, as an original shareholder, had great pleasure in seconding that resolution. It was quite clear that if they were not so well served by the staff they would not get the results they did, and he was sure all were satisfied with the very favourable results they had had in the past year.

The motion was carried unanimously, and votes of thanks to the Chairman and directors terminated the proceedings.

THE CONSOLIDATED GOLD MINES OF WEST AUSTRALIA.—Mr. Augustus S. Roe, solicitor and notary, writing by last mail from Roebourne, concerning the Coongan Mine, which has been acquired by the above company, says:—"This property is generally considered one of, if not the best, property on the field, having been well proved and containing 25 acres. On the 18th July Mr. Neil Galbraith wired me with reference to this property: '100 tons finished for 200 ounces, mine looking better than ever, water found on shaft adjoining claim 50 feet; shall have another 100 tons ready for crushing next week, which is being obtained by overhand stoping; mills working well, with more work than able to put through.' This is a most encouraging and satisfactory telegram. Here you have machinery in splendid working order nearly new, capable of crushing 100 tons a week, and a splendid proved property, beside unlimited public crushing. The thing would pay dividends from the day it is taken over."

UNCLAIMED WEALTH.—Messrs. F. H. Dougal and Co. have just brought out a ninth edition of their Index to Advertisements for Next of Kin, Heirs-at-Law, and Legatees. The work is a useful and interesting compilation that will, in the event of the peruser not being fortunate enough to be able to claim any of the Chancery moneys, at least enable him to spend a pleasant half-hour. That £77,000,000 are waiting in Chancery to be claimed is the fact developed in this publication in a manner at once absorbing and attractive.

FAST STEAMING TO THE CAPE.—The Union Steamship Company's Royal Mail Steamer "Mexican" which left Southampton on August 18, with the outward South and East African mails, arrived at Cape Town, at 2 p.m., Wednesday, 5th inst. Her net steaming time was made in 17 days 15 hours 20 minutes, the average speed being 14.15 knots per hour. This is the "Mexican's" 48th voyage, and she has now exceeded her previous best performance by upwards of 7 hours.

[Received too late for classification.]

THE DIRECTORS of the FRONTINO AND BOLIVIA (SOUTH AMERICAN) GOLD MINING COMPANY (LIMITED) require a MINE AGENT to proceed at once to their Mines in South America.

One who speaks Spanish preferred. Age about 35 or 40. The Company defrays expenses out and home with board and house accommodation on the mine. Engagement for three years.

Applications, with copies of testimonials, and stating salary required to be sent to the offices of the Company, 184, Gresham House, Old Broad Street, London.

By Order
J. JAMESON TRURAN, Secretary.

London, September 7, 1894.

C. PASS AND SON, BRISTOL,

ARE BUYERS OF

LEAD ASHES, SULPHATE OF LEAD, LEAD SLAGS, ANTIMONIAL LEAD, COPPER MATTE, TIN ASHES, &c. and DROSS or ORES containing TIN, COPPER, LEAD, AND ANTIMONY.

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PACIFIC MINING AGENCY AND TRUST COMPANY.

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BOARD.

IRWIN C. STUMP (Chairman), Manager of the Estate of the late U.S. Senator Hearst.
IRVING M. SCOTT, Manager Union Iron Works.
JACOB H. NEFF, President California Miners' Association.
P. N. LILIENTHAL, Manager Anglo-California Bank (Limited).
W. F. GOAD, Vice-President, Wells, Fargo, and Co.
D. M. BURNS, Capitalist.
R. C. CHAMBERS, Manager Ontario Mine, Utah.
WILLIAM C. RALSTON, Secretary (Secretary California Miners Association).

BANKERS—The ANGLO-CALIFORNIAN BANK (Limited).
HEAD OFFICE — MILLS BUILDING, SAN FRANCISCO, CAL.

THIS COMPANY sells Mines, Mining Claims, Ditch Properties, and Water Rights ON COMMISSION, and will act as Agent and Broker for the Sale and Purchase of such Properties.

It is intended to conduct the Purchase and Sale of Mining Claims, Ditch Properties, and Water Rights on the same basis as a real estate transaction.

The Company is prohibited by its Articles of Incorporation from buying or selling on its own behalf, or except upon commission, or as agent or factor for others.

The buyer pays no fees whatever, and there is no incentive to advance the price beyond the original figures at which the price and commission have been agreed upon with the seller.

It is not intended only to negotiate the sale of an entire property but interests in such may be sold or money obtained for development work.

This Company especially solicits the business of making reports or examinations for non-resident mine owners on any of their mines in the United States, and obtaining special information as to their condition and so forth (said reports being confidential).

Those who conduct the business of the Company have had long experience in mining operations, and it is their intention to place the Company in a position to inspire the confidence of all who seek its assistance in its integrity and fair dealing.

We respectfully refer to any Bank in the City of San Francisco and to the Anglo-Californian Bank (Limited), London, as to the standing of the Board of Directors of this Company.

Descriptions of properties for sale with maps, reports and all necessary information, are left on file in the office of the Company. Abstracts of such reports with prices of mines will be furnished pon application.

California has produced £267,000,000 in gold, and is still producing £2,680,000 a year. There are thousands of claims requiring capital for development. In other Pacific Coast States and Territories there are abundant opportunities for investment in mines of gold, silver, copper, lead, coal, and so forth. Information concerning these will be furnished by this Company on application.

This Company will also furnish competent engineers, superintendents, foremen, miners, millmen, assayers and others connected with the mining industry on application, furnishing their references and so forth.—Cable Address, "CHAPIN," San Francisco.

THE BUTE WORKS SUPPLY COMPANY, CARDIFF.

Telephone: No, 45 (Post Office and National).

Telegrams: Gething, Cardiff.

WAGONS.—New to Latest Regulations, 50 with one end two Side and two Bottom Doors, Wheels with Wrought Bosses large capacity (12 inches longer and 4 inches deeper than usual), ready for Lettering. New to Latest Regulations, one end and two side doors, sides and ends 3 inch red deals, all inside underframe timbers of English oak; delivery, about 15 per week, commencing forthwith. 50 End Tip 10-ton Coal Wagons to New Regulations, equal to new, prompt delivery.

LOCOMOTIVES.—One good second-hand Saddle Tank Loco. six wheels coupled, ready for instant work, and cheap for cash or three years' purchase-lease. 14 inch cylinders, by Avonside Engine Company, now at Cardiff.

RAILS.—Bridge, 14 to 120 lbs. per yard; Flange, 10 to 100 lbs. per yard; Double Head, 30 to 82 lbs. per yard; and Bull Head, 50 to 96 lbs. per yard.

SLEEPERS.—Wood, Iron, and Steel. A quantity of Metre Gauge Steel Sleepers for Sale, Cheap.

PORTABLE RAILWAY.—£11 per 100 Yards of Railway (Steel Rails and Iron Sleepers), complete.

3-TON CRANE.—Nearly new, on trolley; 4 feet 8½ inch gauge.

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INVESTORS and OTHERS desirous of RECOUPING LATE LOSSES, should read letter on page 982 and communicate with the writer.

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An Illustrated Record of Mining, Metallurgical, Railway, Financial, Industrial, and Engineering Progress.

ESTABLISHED IN 1835.

THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE, published every SATURDAY MORNING, price SIXPENCE, is recognised throughout the World as being the oldest, most influential, and most widely circulated Journal devoted to the interests which it represents. It circulates

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TO SUBSCRIBERS.—The Annual Subscription to THE MINING JOURNAL, including postage to any part of the United Kingdom, is £1 4s. Abroad, £1 8s. payable half-yearly in advance. It can be purchased at all Railway Bookstalls and Newsagents throughout the United Kingdom for 6d.

TO ADVERTISERS.—The following is an abbreviated Scale of Charges for Advertising:—Companies' Prospectuses, £12 12s. per column, or £20 per page; Companies' or Legal Announcements, 9d. per line, with a Minimum charge of 7s. 6d; Sales by Auction, Publications, For Sale, Wanted, &c., &c., 8d. per line with a Minimum charge of 4s.

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*** ADVERTISEMENTS (which should in all cases be sent direct to THE MANAGER) can now be received for the forthcoming issue of THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE, on FRIDAY, at 18, FINCH LANE, E.C., up till 6 p.m., and at 3, DORSET BUILDINGS, SALISBURY SQUARE, E.C., until 9 p.m.

*** THE MINING JOURNAL, is neither controlled, nor is any interest in it held or exercised, by any mine owner, speculator or syndicate, and it is in no way connected with any share dealing agency. The position occupied and the views expressed by it are alike absolutely independent.

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LONDON: SEPTEMBER 8, 1894.

MINING EXPERTS.

OUR readers will remember that a short time ago a series of articles appeared in these columns relative to the introduction of mining properties on the market, their management, and the engineering required in connection with them; but, perhaps, the greatest responsibility of all rests upon the expert sent out to examine a property with the knowledge that the expression of a favourable opinion by him will probably entail the expenditure of many thousands of pounds. It is obvious that only the best and most reliable of men should be chosen for work of this sort; men fully alive to the moral responsibilities involved, upright and honest, and who will refuse to be influenced one way or another by any of the endeavours which we must sorrowfully admit are sometimes made to bias the opinion of the expert. These qualities are, of course, additional to those of technical training and an intimate knowledge of the business in hand; but we fear that in the excitement of a boom they are sometimes lost sight of, and doubtless our readers will remember instances during the recent South African excitement, and possibly also during the present Australian one, where a better selection of the expert would have resulted in the saving of public money and the diminution of the number of mining failures. Unfortunately, during the rush and excitement due to the discovery of a new and rich gold field, ordinary business precautions seem to be neglected, and the statements of unknown men are accepted as being absolutely true, while the necessity of their confirmation or otherwise seems to be lost sight of. It is only afterwards, when the excitement has cooled down, and wiser counsels prevail, that the reaction comes, too late probably for the taking of effective measures, and the public find themselves involved in an undertaking, the ultimate success of which is questionable. Discoverers and vendors are naturally anxious to get rid of their properties while the excitement lasts, and if their mines are situated in out of the way corners of the world it is a matter of months before an expert can reach them, make his examination, and send or bring home his report. We put in the word "bring" advisedly, because we think that the expert should, on his return home, submit his report in person, and be cross-examined thereupon by his employers, for there are many points which may be omitted from a report upon which his views and opinions, as one who has been on the spot, would be interesting.

The life of an expert is not a happy one, and too often his abilities are judged by the few successful mines which he has been fortunate to recommend, while forgetting the waste of money which he has prevented by his putting the closure upon schemes which would not be successfully worked. The vendors are naturally anxious to obtain a good report upon their property, and are not over scrupulous in the means which they employ to that end. Both samples and mines can be "salted," the former perhaps more cheaply and economically than the latter, and we could cite instances in which this has been done with more or less temporary success. But even when there is no desire on the part of the vendors to tamper with the samples, and in the majority of cases we are inclined to believe that they are perfectly honest in their dealings, the difficulty of sampling a mine from a practical point of view is still so great that an expert will rarely place much reliance upon the operation, or base his calculations thereon. He prefers rather to go upon the past records of the working, or if it is a new mine to insist, even at considerable expense, upon the milling of several tons of the ore before he will make a statement as to its value Assays of small samples do not carry much weight with him, and although they may be studied with some curiosity, they cannot serve as a basis for the building up of an elaborate estimate, and the consequent expenditure of large sums as working capital. The preliminary reports sent in by prospectors are curiosities in their way, and are often written by illiterate men, first class miners no doubt, but poor penmen. We have one of these before us at present, upon the strength of which several hundred pounds were thrown away in prospecting on a hill side where the smallest acquaintance with geology would have shown the writer of it that it was useless to expect to find any productive mineral lodes, and yet he says "My opinion is, if worked in a practical manner, it will be a real good mine in depth if the lodes prove so good on surface, what must it be if worked below." In many of these prospectors' reports we come across a favourite phrase which takes the form of "a mountain of copper," or the mineral which may happen to be present.

Most experts have heard of this mountain of mineral, and have possibly been sent in quest of it, with the result that they have found the mountain, but not the mineral. Sometimes, indeed, attempts are made to build up an artificial mass of mineral, as in the case of the expert who was sent out to examine a silver mine in Mexico, we believe. He was fêted on his arrival, and after partaking of a lunch calculated to affect his bodily if not his mental stability, was taken down into the mine. At the end of a certain level he was shown a splendid mass of rich ore stretching right across it, and was asked if he had ever seen the like before. Notwithstanding the lunch, his eyes were as keen as ever, and he asked to have that wall pulled down, for wall it was of imported ore; the proprietor demurred at this, but politely intimated that there was a run of $10,000 behind it as a consideration for a good report, which, needless to add, he did not obtain. The duties entrusted to a mining expert are about as onerous as any that can be confided to one man, and we are decidedly of opinion that his fees, even though stiff, are well earned. The life is a dangerous one; the man must have gone through many long years of hard practical training; upon his report will depend the expenditure of large sums of money and the probable gain of still larger ones; or if it is unfavourable he must have the courage to say so in spite of all temptations; while his personal character must be beyond all suspicion and his reputation such that he will run no risks with regard to it. He cannot have acquired his knowledge and experience without having paid dearly for it, and when we consider the cost of his training in the past, the risk he runs in the present, and the reputation of stake in the future, apart from the extent of the interest depending upon his opinion, we quite believe that in this case the labourer is worthy of his hire. The present is, perhaps, an appropriate occasion on which to call public attention to the necessity of having all mining schemes carefully and conscientiously examined before they are entered into. The rich discoveries of gold in Western Australia are well calculated to make investors forget their usual cautiousness, and to rush blindly into ventures which in calmer moments they would fight shy of. They are apt to forget that "all that glitters is not gold," and while we by no means desire to discourage legitimate investment in mines, we would strongly point out the necessity of submitting the various proposals to the opinion of thoroughly competent mining experts before any steps are taken towards the expenditure of money on little known and untried properties, for which fabulous sums are frequently asked.

ELECTRICITY IN MINING.

THE use of electricity for power transmission has made so many advances that it has almost exclusively occupied the field, but it is in mining that its advantages have been principally exemplified in practice. Mining is an industry in which the transmission of power from central plants to machinery in distant workings, instead of the erection of auxiliary engines, is a very important means of economy. Moreover, electricity is excellently suited to mine lighting and to the explosion of blasting charges, while the electrolytic treatment of ores is one of the most promising branches of metallurgical science. It may be depended upon that every up-to-date mining engineer who has to advise the installation of plant will utilise a central station with electrical transmission in order to prevent the multiplication of shafts. This principle is so marked in the equipment of the Witwatersrandt gold mines that a marked change in climatic conditions is said to have resulted from the extensive employment of electrical machinery. Up-to-date mining engineers, however, are not satisfied with the development of electricity on these lines. They want to see the steam engine altogether abolished at individual mines, and to make the provision of power the work of huge central stations, from which it can be despatched by electricity all over the fields. An English engineer has proposed to despatch power in this way from the Midland coal fields to all the industrial centres in the country. It is also suggested that the small and scattered water powers of Great Britain might be utilised, as are the larger falls of the Continent and the United States, by transmitting the force of turbine-driven dynamos to a few collecting centres. What the possibilities of power economy are in this direction is a very interesting question for mining engineers. They are likely to be afforded an excellent opportunity of deciding it by actual experience on the Witwatersrandt, where no less than £1,000,000 is proposed to be spent upon the erection of huge central plants and the transmission of power thence to the gold mines. There are two separate schemes involved in this attempt, and the total force proposed to be placed at the disposal of the mining community is 14,000 horse power. This is probably very nearly as much as the entire capacity of the steam engines now at work on the Rand, and as it is claimed that power will be available, under the one scheme for ¾d. per horse power per hour, and under the other for 1½d., something like a revolution in the economic conditions of gold mining in the Transvaal seems promised. The larger proposal of the two which aims at supplying power for the smaller sum named, would derive its prime force from huge turbines on the Vaal, the river stream being diverted for this purpose. It would give an available supply of nearly 12,000 horse power, which, it is said, could be increased to 20,000 horses, and it is claimed that every provision can be made for an uninterrupted provision of the current. The cost is put at about £800,000, and it is claimed that handsome profits would be earned for shareholders. The second scheme is the execution of a famous firm of German electrical engineers. It is more modest in its proportions, involving the outlay of only £200,000, and providing a total 2000 horse power. For shareholders in Randt mines the most interesting thing about these gigantic schemes is the evidence which they afford of the feeling on the spot respecting the future expansion of the gold field. The 14,000 horse power to be manufactured must depend for its consumption principally on the development of new claims, and the success of the deep level workings now being entered upon. No doubt a certain proportion would be taken by mines which are not equipped with machinery at present, or whose plant is out of date and wasteful. The leading mines, which have put down steam engines of the most modern type, in which the consumption of coal does not exceed 3 lbs. per horse power, and which have extensive systems of electrical transmission at work, would not find it profitable to throw aside such plants for the sake of hiring power, even at the low figures quoted. The slight reduction in the cost of generation would be more than counterbalanced by the longer distance of transmission. Therefore, the success of the undertakings—at all events, the larger one—must depend upon the expansion of the Transvaal gold industry.

NOTES AND COMMENTS.

NEWS comes from all parts of the world that the laws hitherto enacted against gold and amalgam stealers are being loaded with severer penalties, enforced with greater energy and insight, and are, by emendation after emendation, accomplishing in a far fuller measure than before the object of their enactment. In Guiana, only a week ago, the local authorities have sustained a sudden awakening to the magnitude of the evil. The ignominous *role* of the accessory will, in the future, be put into the same category and penalised in the same heavy way as the principal. Beyond this, the Legislature have in process of gestation a number of enactments tending to the same end, which it is confidently predicted will, in the fulness of time, eradicate wholly, or nearly wholly, this intolerable pest of gold thieving. Whether this is an over-sanguine forecast, or whether the issue will completely substantiate it, must remain for the future to decide.

To this widespread movement in the direction of greater severity, there appears to be an exception in South Africa. According to the *Mining Journal* of that country, the Minister of Mines has lately adopted quite a reactionary tone in this matter. Up to the present, the onus in all suspicious cases of proving the legality of the possession of amalgam has been with the possessor. Under a new arrangement it is proposed that the burden of proof for an illegal possession lies with the authorities. The authoritative newspaper from whom we cite the circumstance waxes excessive wroth on the score of this indulgent proposal. "It would be simply appalling," it remarks, "at this time of day to muster anew the overwhelming arguments against this contention, which, if allowed to stand, would, in the special circumstances of the industry, be granting a charter and plenary indulgence to a crime which cannot be attacked otherwise than by constituting possession as a *prima facie* theft." Considering how difficult the movements of the authorities would be made in the last case, it is hardly to be wondered that some indignation should be expressed by the recognised organs of the industry, whose fruits are so often made the subject of theft.

THE books which have recently been published on the Witwatersrandt gold mines, though excellent productions in style and method, do not so completely cover the ground that we can afford to mete out anything but a hearty welcome to the second edition of the valuable compilation shortly to be issued from the London Press in the name of Mr. C. S. Goldman. The author's labours have been on no mean scale of magnitude, but the reward of a wide and hearty recognition of merit which has been his will be all the sweeter to his palate in the consciousness that it has been fully earned. Those who have had the opportunity to consult the original work will be able to make no uncertain forecast of the volume shortly to be issued, with the modifications necessary to bring the work fully abreast of to-day. It is understood that the book will contain a full account up to the present time of the leading Witwatersrand companies, the labour and patience necessary tolcollate the very latest particulars having been unsparingly given.

MORE and more is getting known of the gold resources of Matabeleland. Experts are in the country reporting for the London papers, and their work will put us into possession of a mass of information such as will be gladly received in many quarters. A full knowledge of this particular district will be one more move towards the conquest of Africa—one more step into the heart of the Dark Continent. Before very long the proverb which ascribes to Africa the illimitable capacity for yielding new things may be falsified by the complete illumination of this extensive slice of the globe. Then another limit will be put to our Colonial expansion, and the question will again be forced into prominence as to how we are to grow when there is no more room to fill. To say that these questions should be relegated to oblivion until the answer to them forces itself by sheer necessity upon mankind, is a mere fatuity. The more they are considered the greater will be the chance of successfully combatting any evil effects that may be occasioned.

MORE than one writer, speaking on behalf of his distinctive nationality, has recently had occasion to remark, that in the more unopened mining districts the industry is rapidly becoming more and more pursued in accordance with scientific methods. Here and there a practical miner, with but little grasp of theory, whose experience has been bought at the hard school of personal acquaintance with the pick, is heard to cast a half humourous gibe at excessive theorising. Superficially his words might be taken to imply a laudation of the rule of thumb. It is merely, however, an impulse of the moment, not referable to any serious conviction. In his calmer moods, indeed, he will generally admit that a firm hold upon the abstract principles approaches nearly to an absolute necessity. Thus the wide-spread prevalence of a scientific learning, confined to no country or people, and the numerous proposals for the establishment of schools of mines, projects which bid fair to lead in the fulness of time to carry us nearer to a perfection of working than ever yet we have been.

THOSE interested in the Cornish mining industry are looking forward with considerable hope to the revival in trade almost certain to follow upon the important modifications now introduced into the American tariff. The new era will not commence for Cornwall before it is deserved. The weary months of adversity have been borne with exemplary patience. Instead of grumbling garrulously against the inevitable, the Cornish mine manager and committeeman have with great wisdom and foresight seized the occasion to reconsider matters of expenditure and control. The full force of whatever economical reforms have been introduced—and they are neither few nor insignificant—will begin to make itself felt directly the period of depression has given before the return of activity in commerce. It will then be seen that the unpropitious season through which Cornwall in common with the whole country has recently passed has not been altogether an unmixed evil, but has redounded not a little to care and proficiency of mine supervision. At the same time it may not unreasonably be hoped that the present measure of partial free trade accorded by Congress is no more than an earnest of what is to come, so that the improvement may in the end be even greater than is at present anticipated.

Now that the holiday season is with us, and London will soon be half emptied of its inhabitants, it may be well to remind our readers of Mr. Peter Watson's recommendation of a personal visit to the home mining district. For scenery the locale of many of the Devonshire and Cornwall mines may easily vie with that of any other part of the United Kingdom, and the shareholder afield among the hedgerows, and walking reflectively over the cliffs of our western counties, will find no unpleasant break in the novelty of their situation by a brief—voluntary—descent into the bowels of the earth. The pleasures of threading the underground passages of a mine pall, if too frequently experienced, but for the first time the descent towards the centre of the globe is quite a pleasurable event. A more intelligent interest, moreover, must of necessity be taken in the working of a company, by a shareholder who has been to the spot, and whose ideas of the mine are not more vague, shadowy, mists of dreamland. A courteous reception on behalf of the officers of the company will be the one thing needed to make the visit an entir success.

NEWS comes to hand from South Carr, Healey, in Lincolnshire, to the effect that workable seams of coal have been discovered. This result has followed upon three years of experimental boring, and is of the first importance, seeing that a hundred square miles of strata are thus proved. Indeed, for magnitude the discovery said to compare advantageously with any made within the past century. Notwithstanding that the consumption of coal is slowly exhausting a supply for which there is no replenishing, such discoveries as this tend to show that the evil day of coal-lessness is still far distant. In the present case it is probable that working will be put off for some time, owing, as the report says, to some disagreement among the local landowners. It seems, however, highly unlikely that a dispute of this sort should continue for long, seeing that the interests of all concerned are obviously involved in a peaceful settlement. Its termination will mark the exploitation of a new and important coal field, and will have an weighty bearing upon the future of the industry.

AMERICAN authorities are declaring that the Transatlantic tin-plate industry is now so firmly established that it will be able to hold its own, and they describe the battle which the Welsh makers are waging with American producers as "a losing one." They, however, point out that wages at the Welsh tin-plate mills will be reduced as the result of the lower tariff. Indeed, they state that there is already "an understanding" with the men under this head. The return of tin to the free Customs list will, it is stated, be received with general satisfaction by American manufacturers, "since the promises held out by the Black Hills prospectors as regards output and price, have not been kept." This is very suggestive, and will be duly noted by tin mine shareholders.

IRON and steel masters in Lancashire and North Staffordshire are much dissatisfied that the American Tariff, which promised to be a good thing for them in some departments of the finished iron business, is, in respect to the hoop iron employed in baling the cotton crop season by season in the Southern States, likely to operate far below expectations. True, the tariff on these goods is much less under the Wilson Bill than under McKinley legislation, but it still works out at between £4 and £5 per ton. This rate is clearly an impossible figure for importers to bear, and English ironmasters will, it is feared, get less and less trade from this department. Again, it is a suggestive fact that the American steelmasters have gone in much more determinedly than before for cultivating the trade in cotton ties, and are inducing the planters to use steel material in preference to iron. The prices at which the Americans are soliciting business are extremely low, and during the past week we have been privately informed that one English ironmaster who recently tendered for cotton hoops for the American market, f.o.b. Liverpool, was advised that the goods could be bought cheaper than his figure, delivered from American mills at the planter's own door. As regards steel, the remarkable statement is made that partially finished material from Pennsylvania can to-day be delivered into Scotland at less prices than the Lanarkshire works can themselves quote.

AN instructive trip down the River Tyne has been taken during the week by the members of the Federated Institution of Mining Engineers. All along the course of the journey the party passed by works of a world-wide repute, and through a district which, from the professional point of view, is hardly second to any in interest and celebrity. For coal and shipbuilding the stretch of river has achieved a fame of the highest consideration, and one that is increasing with every year. A tangible evidence of the latter industry was furnished by some 33 vessels in course of construction; while the magnitude of the coal and coke shipments is inadequately conveyed by the figure quoted in the programme of the excursion, 11,000,000 tons. An aggregate, such as this, completely throws into shade the 2,000,000 of other goods imported and exported. As a dark relief to this stupendous activity, there is the enforced idleness which has fallen upon many of the smaller factories and building-yards. The causes which have contributed to this state of things are difficult to estimate. Foreign competition is freely assigned by many as the rock upon which more than one of these minor industries have been split. A scarcity of raw material also participates in this responsibility.

THE Labour parties all over the country are still in a ferment of excitement over the Eight Hours Question. If there be any truth in the saying that a house which is divided against itself cannot stand, the Labour section ought to come what is vulgarly but expressivly termed a "cropper." For the difference of opinion respecting this great question runs throughout the whole party, and leaves the Congress itself in two halves. The case for the worker is still not so bad as might be thought. A sort of working agreement will, in all likelihood, be consummated by which the sections, divided on abstract matters, shall still for all practical purposes, remain united. Amid such considerations as these, it is, perhaps, impossible not to cast a half apprehensive glance at the greatest of all tyrannies—the tyranny of organisation. In the unreasoned antagonism which has been directed towards Mr. Fenwick, M.P., because that gentleman has dared to vote in accordance with his conviction, there is matter for thought. At present the Congress is in the hands of the extreme party, and there is every indication of what the results of this unfortunate domination will be.

THE Duke of Argyll has so distinguished himself in half a dozen branches of human knowledge — including political economy as a prominent particular of the group—as to win for himself the right of a respectful and attentive hearing on industrial questions. His emphatic condemnation, therefore, of

the Scotch miners strike is worthy of serious consideration, the more especially as it is not couched in the language of vague generality, but framed with special regard to the circumstances of the particular case. That strikes are invariably foolish is further than His Grace is prepared to go, but he continues—"There can be no doubt that the colliers' strike in Scotland during the last ten weeks has been ruinous in its effects all round, but most of all to the colliers themselves. It was made in the teeth of economic conditions which rendered success impossible, and under dominance of ideas which are contrary to laws of nature or the value of products and of labour." Sentences of this kind bear the stamp of careful thought, and must not be shortly dismissed, the more especially as the subsequent fact has appeared fully to justify the utterance.

OUR CITY ARTICLE.

FRIDAY EVENING.

THE MINING MARKET.

An eventful week.—South Africans firm.—West Australians in demand.—Indians flat.—A hopeful close.

AN active and busy week has terminated very favourably in most departments. Some depressing periods have been passed through, but at the opening and the close the tone has been a good one. On Monday the market in all its sections culminated in an extraordinary manifestation of firmness. South African shares were largely bought, and more rises were recorded than has been the case for a long period. Rand Mines, City and Suburban, and Meyer and Charlton were among the most conspicuous for improvements. In the respect of activity the Diamond department was fully abreast of the Gold section. The chief shares exhibited considerable accessions of strength. Even in Land shares, where business was at its lowest point, there was a fair number of rises recorded. Miscellaneous shares were marked by a strong tone which did not affect particular shares so much as the whole market. Indians were the only dull spot, and even there one or two gains were registered. There was every indication early on Tuesday that prices were still at their greatest strength, but after some hours an idea spread that quotations had gone as high as reasonably could be anticipated, with the result that there was something in the nature of a reaction. The drops, however—if so they might be called—were wholly insignificant, and no one exceeded $\frac{1}{4}$. Against these, moreover, there were several rises to record, more especially in the Land section, where considerable strength was manifested, conspicuously so by Chartered and Exploring. The Miscellaneous market was dominated by the same current of patronage in favour of West Australian shares, where rises were general. Indians were dull, and for the rest there was little in the market worthy of note. The reaction upon the recent buoyancy of tone became more pronounced during Wednesday. The depressions were in every case inconsiderable, but nearly all the shares were affected, and moved down to the extent of about $\frac{1}{16}$. The Miscellaneous market was the strongest section. Business was brisk, and both at the opening and the close considerable firmness was manifested. Even the smaller shares were affected by the better state of things and hardened perceptibly. At the close of the markets on Thursday there was a return to the firmer tone ruling at the opening on the previous day. The disposition to snatch profits had worn off, and Kaffir shares especially were strong. There were several rises of importance, including one of $\frac{3}{16}$ in Rand mines. Lands and diamonds were rather more doubtful, and rises and falls about balancing each other in number. Jagers were fairly strong at a rise, but De Beers were lower upon Paris selling. There was the same record for the Miscellaneous section as on the previous day, with the difference that business was transacted more steadily and with less irregularity. West Australians were still the centre of attraction, but the prices were hardly so favourable as heretofore. The Indian section was excessively dull. These shares apart, the indications for the future were distinctly hopeful at the close.

British Mines.

There has been a better tendency in the Cornish market during the past week, the steadiness of tin imparting apparently more confidence amongst the dealers. Carn Brea after falling to 7⅜ have recovered to 7½. Dolcoaths are better at 72½, East Pools steady at 9½, and Tincrofts firm at 12⅜. These have been the mines chiefly dealt in.—Risen: Dolcoath, 50s.; South Crofty, 2s. 6d.; Tincroft, 5s.; and West Kitty, 5s.—Fallen: Carn Brea, 15s.; Cook's Kitchen, 2s. 6d.; Killifreth, 2s. 6d., and South Frances, 2s. 6d.

South African Shares.

At the commencement of the week the strength of this section of the Mining Market remained not only unimpaired, but actually in a higher degree. Altogether the tone in the South African shares was a remarkably firm one. The number of shares upon the market was small, and the operations were conducted more by the general public than by the broker. Not only was the small set back occasioned by a disposition to profit-snatching arrested, but there was in addition a general advance in the Rand section. Jumpers hardened to 4⅛, Cities improved to 15½, Rand Mines to 9 7/16 buyers, Durbans to 6⅜, Meyer and Charlton to 6 3/16, Wemmers to 5, Villages to 4½, and Wolhuters to 3 1/16. The movement upwards was not, however, confined to the higher priced shares. The proposed reconstruction of the Spes Bona Company being regarded favourably, a rise of 2s. 6d. carried the shares to 9s. 6d. Spitzkop also rose 4s. 9d. during the day, and closed at 16s. Diamond shares were fully in keeping with the rest of the market. De Beers were 5-32 to the good at 16 23-32. Jagersfontein also gained ⅛. The Land section, though not at its best, was generally pretty firm. Improvements were registered in Consolidated Gold Fields of South Africa, Mashonaland Agency, and Zambesia Exploring. On the reopening of the markets on Tuesday the prices in all directions appeared to be as firm as ever. Towards mid-day, however, an idea began to obtain that the upward movement had gone sufficiently far, and a small reaction consequently set in. Losses, however, were in all cases inconsiderable. Geldenhuis Estate dropped 5-32, to 5 3/16, Champs d'Or fell ⅛, to 2 1/16, and Jumpers exhibited a similar decline at 4⅛. Durban-Roodepoort, Henry Nourse, New Heriot, Ferreira, and Nigel eased off 1/16, and New Rietfontein at 1⅛ were also somewhat easier. Advances of ⅛ carried Llanglaagte Royal to 3 1/16, while Kleinfontein rose similarly to 1 1/16. Rises equal to 1/16 were also recorded for Crown Reef, Geldenhuis Deep, Wemmer, and Salisbury. Among the lower-priced shares, Spitzkop reacted 2s. 3d. to 13s. 9d. Spes Bona and Knights dropped 6d. Whatever movements took place in Land shares were mostly in favourable directions. Chartered were strong, and closed 9d. better at 37s., while Exploring improved sympathetically 1/16 to 4⅞. Diamonds were firm, but did not change during the day. Throughout Wednesday the reaction in the South African market continued, and the declines, though still insignificant, became more general. Heriots and Jumpers suffered to the extent of 1/16, while losses of ⅛ occurred in Champ d'Or, Worcester, and Village Main Reef. New Primrose and Buffelsdoorn were a trifle down. The same was the case with Simmer and Jack, Henry Nourse, Wemmer, New Rietfontein and Langlaagte Estate. Some improvements were noticable. Rand Mines, for instance, were ⅛ better and touched 9⅞. City and Suburban and Geldenhuis Estate were also a trifle better. In more unimportant directions Spitzkop reacted 9d. to 13s., while Pigg's Peak and Knight's were both 6d. worse. Graskop were also a trifle lower. Movements in Diamond shares were of rather a doubtful character. De Beers reacted from 16 1/16 to 16⅜. Jagers, on the other hand, rose ⅛ to 13⅞. The Land department was without any dominant characteristic. Chartered were firm, and rose to 37s. 3d., but yielding subsequently to the prevailing depression they fell 6d. Exploring and Oceana gained 1/16, while Zambesia fell to the same extent. Towards the close of the market on Thursday, Kaffir shares regained to a large extent the firmness which earlier in the week had characterised them, but which, upon a tendency to realise, had subsequently somewhat given way. Rand Mines took the largest jump of any during the day, the rise carrying the shares 3/16 upwards. Jumpers and Simmer and Jack were also better. Ferreira, Robinson, Wemmer, and Henry Nourse all hardened, and among low-priced shares there was a demand for May Consolidated, Metropolitan, Randfontein, and Aurora, all of which improved. Champ d'Or Deep, on the other hand, receded, and there were slight falls in Primrose, Wolhuter, Transvaal Gold, United Roodepoort, Langlaagte Royal, George and May, Buffelsdoorn, Knight and Agnes block. A fall of 7s. took place in Spes Bona. Land shares continued to vacillate. Chartered went back to 36s. 3d. Oceanas and Consolidated Gold Fields remained strong, but there were falls in Bechs. and Alexandra Estate. The currents in Diamonds remained doubtful. De Beers fell to 16⅛, but Jagers advanced to 13 1/16. To-day's feature in the Kaffir section has been the demand for Champ d'Or and Jumpers, both of which have registered gains. The Land section have been fairly strong. Chartered have been quoted at 37s. There has also been enquiry for African Consolidated Lands upon the discovery of coal. Lisbon-Berlyns and Frank Johnsons have similarly come in for some attention. Diamonds have been dull.—Risen: African Consolidated Land, 3d.; African Gold Recovery, 5s.; Afrikander, 2s. 6d.; Agnes Block, 1s.; Alexandra Estate, 1s.; Aurora, 1s.; Balkis Eesterling, 3d.; Balkis Land, 6d.; Barrett, 6d.; Booysen, 1s.; Champ d'Or Deep, 6d.; Chartered, 1s.; Consolidated Deep, 1s. 3d.; City and Suburban, 10s.; Durban, 3s. 9d.; Exploration, 2s. 6d.; Ferreira, 5s.; Frank Johnson, 3s. 9d.; Geldenhuis Deep, 5s.; Geldenhuis Estate, 2s. 6d.; Geldenhuis Main, 4s.; Gold Fields of Mashonoland, 1s. 3d.; Grahamstown, 6d.; Graskop, 6d.; Johannesburg Pioneer, 2s. 6d.; Johannesburg Water, 6d.; Jubilee, 2s. 6d.; Jumpers, 7s. 6d.; Langlaate Royal, 7s. 6d.; Lisbon, 3d.; May Consolidated, 6d.; May Deep, 6d.; Mashonaland Agency, 2s. 6d.; Metropolitan, 3s. 9d.; Meyer and Charlton, 5s.; Modderfontein, 2s. 6d.; New Chimes, 1s. 3d.; New Primrose, 2s. 6d.; Nigel, 2s. 6d.; New Transvaal Land, 1s.: Oceana, 1s. 3d.; Orange Free State, 5s.; Otto, 9d.; Potchefstroom, 1s.; Randfontein, 6d.; Rand Mines, 10s.; Robinson, 5s.; Salisbury, 5s.; Silati, 3d.; Simmer and Jack, 5s.; South African Trust and Finance, 6d.; South African Exploration, 5s.; Spes Bona, 1s.; Spitzkop, 1s.; Stanhope, 2s. 6d.; Sutherland Reef, 6d.; Transvaal Coal, 6d.; Transvaal Estate, 1s.; Transvaal Exploration, 1s. 3d.; Transvaal Land (part paid), 1s.; Transvaal Land (fully paid), 9d.; Village Main Reef, 2s. 6d.; Wemmer, 2s. 6d.; Witwatersrandt (Knights), 6d.; Wolhuter, 5s.; and Worcester, 1s. 3d.—Fallen: Aurora West, 1s.; Bechuanaland, 6d.; Bultfontein Consolidated, 2s. 6d.; De Beers, 2s. 6d.; Glencairn, 1s.; Henry Nourse, 2s. 6d.; Klerksdorp, 1s. 3d.; New Virginia Transvaal, 3d.; Nyassa, 1s. 3d.; Read's Drift, 1s.; Roodepoort (Kimberley), 6d.; United Roodepoort, 1s. 3d.

Miscellaneous Shares.

The Miscellaneous Market was fully as active on Monday as the other departments. Rises were again general, and involved almost without an exception, the whole list of shares. A strong demand set in for West Australian Gold Fields, carrying them 3-32 up on the day to 2 15-32. Hampton Lands also came in for a large share of attention, and closed at 2, 1/16 up. Indian shares were featureless. Nundydroogs were sold at 33s., but trifling gains occurred in Mysores, Harnhalli, and Kempinkote. In the Miscellaneous section, the feature for Tuesday was the continued concentration of attention in the West Australian quarter. Hampton Lands improved 3/32 to 2⅜, while West Australian Gold Fields reached 2⅞—a rise of 9-32. Indian shares were almost oppressively quiet. Mysore West and Wynaad fell 6d. each on the call of that amount. Wednesday brought little change to the Miscellaneous market, which remained firm, with West Australian shares as the centre of attraction. At the opening West Australian Gold Fields were strong, but realisations brought about a loss of 1/16, the quotations being depressed to 2 7/16. The one feature in Indian shares was a small demand for Nundydroogs, which tended to strengthen quotations. Among the smaller shares, such as Caratals, Springdales, and Idahos, there was some business transacted which hardened to some extent their tone. Business in the Miscellaneous department was active and steady throughout Thursday. West Australian shares continued to be the chief attraction. Early in the day West Australian Gold Fields were rather off colour, but later they picked up, and closed firm at 2 9-32. Hampton Lands rose 1/16 to 2 1/16. Among Indian shares Mysore West, Mysore Reefs, Mysore-Wynaad, and Balaghat-Mysore rose 6d., but Ooregum Ordinary and Preference fell 1/16. The weakness in Rio Tinto continued, the closing price of 14⅛ showing a recession of 1/16. In the Miscellaneous market to-day Indians have been dull. West Australian shares, which on the previous day had been a trifle off colour, have regained their firmness and close strong. Other than this there has been little to record. Risen:—Aladdin, 1s. 3d.; Alaska, 5s.; Australasian, 3d.; Bayley's Reward, 2s.; Bonnie Dundee, 9d.; Brilliant Block, 2s. 6d.; Cape Copper, 1s. 3d.; Carrington, 3d.; Coromandel, 6d., Day Dawn P.C., 3d.; Don Pedro, 1s. 6d.; Eaglehawk, 3d.; Golden Feather, 2s.; Golden Gate (California), 1s.; Golden Leaf, 2s.; Gravel Gold, 1s.; Kempinkote, 3d.; Loma, 3d.; Mosman, 6d.; Mysore Reefs, 6d.; Namaqua, 1s. 3d.; Ripanji, 2s.: St. John del Rey, 1s.; Tolima A 5s.; Waihi Gold, 1s. 3d.; West Australian, 5s.—Fallen:—American Belle, 3d.; Balaghat, 6d.; Broken Hill Proprietary, 1s. 3d.; Elkhorn, 6d.; Glenrock, 3d.; Mysore West, 6d.; Nine Reefs (9s. 6d. paid), 6d.; ditto, fully paid, 6d.; Poorman, 1s.; Rio Tinto, 10s.

STOCK EXCHANGE SETTLING DAYS.

Settling Days on the Stock Exchange are as follow:—

CONSOLS, Thursday, October 4.

STOCKS AND SHARES.

Continuation Days.	Ticket Days.	Pay Days.
Tuesday, Sept. 11	Wednesday, Sept. 12	Thursday, Sept. 13
Wednesday, Sept. 26	Thursday, Sept. 27	Friday, Sept. 28

DIVIDENDS ANNOUNCED.

American Investment Trust Deferred, 5 per cent. Payable 15th inst.
Ardrossan Harbour Debenture Stock, 4½ per cent.
Ardrossan Harbour Pref., 4½ per cent.
Alamillos, 6d. per share. Payable 22nd inst.
Bank of Australasia, 6 per cent. Payable October 5th.
Brighton and Hove General Gas, 11 per cent. Payable 18th inst.
Brighton and Hove General Gas, A, 8 per cent. Payable 18th inst.
Brighton and Hove General Gas, B, 6 per cent. Payable 18th inst.
British Gas Light Company, 10 per cent., and a bonus of 2s. 6d.
Bury, Rochdale, and Oldham Tramway, 5 per cent. Payable September 17.
Caledonian Railway, 4 per cent.
Canadian Pacific Land and Mortgage, 2 per cent.
Cassel and Co., 4s. 6d. per share. Payable September 15.
Commercial Banking Company of Sydney, 8 per cent.
Commercial Cable Company, 1¾ per cent. Payable October 1st.
Dairy Supply, 6 per cent.
Edinburgh American Land Mortgage, 8 per cent.
Electric Construction Pref., 7 per cent.
Evans and Owen, 7½ per cent. Payable 17th inst
Evans and Owen, 5 per cent. Payable 17th inst.
Foreign, American, and General Investment Trust, 2 per cent. Payable 15th inst.
Frontino and Bolivia Gold, 1s. per share. Payable September 15.
Fortuna, 1s. per share. Payable 22nd inst.
General and Commercial Investment Trust Pref. 5 per cent.
Glasgow and South Western Railway 4 per cent.
Goole and District Gas and Water, 6s. per share.
Kelly's Queen Block, 6d. per share.
Law Life Assurance, 10s. per share.
London Assurance, 15s. per share.
London Bank of Mexico and South America, 3s. per share. Payable 21st inst.
Linares Lead, 5s. per share. Payable 22nd inst.
London General Omnibus, 8 per cent.
Mill's Day Dawn, 6d. per share. Payable 25th inst.
North Glanmire, 4s. per share.
New England Breweries, 6 per cent. Payable October 1.
Northern Banking A, 11 per cent. Payable 10th inst.
Northern Banking B, 5½ per cent. Payable 10th inst.
Parr's Banking, 19 per cent. Payable November 1st.
Railway Investment Preferred, £1 19s. per cent. Payable October 1st.
Rock Life Assurance, 3s. per share.
Standard Bank of South Africa, 10 per cent.; also bonus 4 per cent.
Smith-Garrett and Co., 10 per cent.
Surrey Commercial Dock, 5 per cent.
South Glanmire and Monkland, 3d. per share.
Ulster Bank, 18 per cent., and a bonus 2 per cent. Payable 10th inst.
Val de Travers Asphalte, 5 per cent.

MINING IN CORNWALL AND DEVON:

NOTES ON WESTERN MINING, EDITORIAL AND OTHERWISE.

(BY OUR SPECIAL CORRESPONDENT.)

ALTHOUGH tin has this week touched the highest point since the turn of the tide there has been remarkably little business in the Cornish share market. There has been a total absence of appreciable buying orders, but in spite of that fact prices have receded little, owing to the tenacity with which the majority of holders cling to their shares. Comparatively small advances in the price often will now have no marked effect upon the market, as those who were standing aloof awaiting a change for the better in tin bought for big rises. The business contest now influencing tin on the metal market will probably prevent tin running back in value, but at the same time it is a barrier to really good prices for the produce of Cornish mines, and they cannot possibly be worked with any satisfaction to shareholders under existing prices.

CORNISH mining has had many prescribers and quite as many prescriptions. The latest comes from Mr. C. A. V. Conybeare, M.P., who at one of his meetings this week strongly condemned what he was pleased to call the antiquarian machinery found on many of the setts. The member for the Mining Division is rather fond of condemning the machinery and methods met with in Cornish mines, and hitherto he has suggested little or nothing that would really help the industry. He has now, however, launched an idea that deserves consideration. At Camborne on Monday he recommended the arrangement of a conference between members of influential families, bankers, merchants, landowners, adventurers, and miners, for the purpose of appointing a committee to collect and publish reliable information regarding various setts in the county. If that were judiciously done, some good would assuredly result, but such a course must raise an uncomfortable question in the minds of outsiders as to why, if the mines are likely to pay, Cornishmen do not invest their capital to back their opinions.

MR. W. ABRAHAM, M.P. for Rhondda Valley, is at present the guest of Mr. C. A. V. Conybeare at Tregullow, and during the week he has addressed large numbers of working miners. Naturally he devotes considerable attention to the work and wages of the miners, and endeavours to introduce some Welsh ideas amongst them. He makes strong appeals for the men to organise, and judging from the applause which greets his impassioned utterances, one must come to the conclusion that the men would like very much to do so. In their calmer moments, however, they appear to realise more clearly the position of mining in Cornwall, and conclude that higher wages to them would, in many mines, prove the proverbial last straw.

WEST CORNWALL had another forcible proof this week of the fact that dangerous occupations cannot be followed without occasional serious accidents and losses of life. About nine o'clock

on Tuesday morning the neighbourhood of Hayle was literally shaken by an explosion of gelignite in the mixing house of the National Explosives Company's works close by, and two men were blown to pieces. The surprise, however, is that the loss of life and property was not much greater. Colonel Ford, of the Home Office, and one of the directors of the company, has made searching investigations, but as far as can be ascertained the disaster was the result of an unexplainable manufacturing accident.

THE Mining Association and Institute of Cornwall excursion this year was one of the smallest on record, but nevertheless one of the most enjoyable. The President, Mr. G. J. Smith, of Treliske, and Mr. J. Wickett, one of the vice-presidents, were amongst the party; but the other vice-president, Mr. J. B. Fortescue, of Boconnoc, is abroad. We have remarked that numbers showed a falling off, but that should be accompanied with the observation that the company was most representative of the several departments of mining. Mr. T. E. Stocker, managing director for the West of England China Clay and China Stone Company, was a capital guide, and this added considerably to the pleasures of the day.

MINING NOTES.

HOME, COLONIAL, AND FOREIGN.

DURING August the output of the five productive mines on the Colar Gold Field, Mysore, was 19,013 ounces, showing an increase of 742 ounces as compared with July, and an increase of 2,321 ounces as compared with August of 1893. The increase is mainly due to the Mysore Mine, which returns 752 ounces more; but it will be noticed that the Champion Reef maintains, and even improves upon, the large output of July. In addition to the figures given below, the Mysore Reefs Company produced 90 ounces in July, but is not now milling. The production since the beginning of 1890 has been as follows:—

	1890. Ounces.	1891. Ounces.	1892. Ounces.	1893. Ounces.	1894. Ounces
January.....	8,358 ...	10,186 ...	11,674 ...	16,844 ...	17,026
February ...	9,547 ...	10,121 ...	11,780 ...	16,656 ...	15,803
March	9,422 ...	10,117 ...	11,579 ...	17,463 ...	16,080
April	7,853 ...	9,392 ...	11,813 ...	18,287 ...	15,551
May	7,861 ...	10,509 ...	12,488 ...	17,922 ...	16,543
June	8,287 ...	10,746 ...	11,847 ...	16,879 ...	15,459
July	8,081 ...	11,097 ...	13,277 ...	16,676 ...	18,271
August	8,079 ...	11,222 ...	14,854 ...	16,692 ...	19,013
September...	8,352 ...	11,396 ...	15,529 ...	17,060 ...	—
October	9,360 ...	12,095 ...	15,922 ...	17,440 ...	—
November...	9,770 ...	11,667 ...	15,942 ...	17,557 ...	—
December...	9,962 ...	11,589 ...	16,435 ...	17,659 ...	—
	104,932 ...	130,137 ...	163,140 ...	207,135 ...	133,746

The outputs of the individual mines for the past six months have been:—

	March. Oz.	April. Oz.	May. Oz.	June. Oz.	July. Oz.	Aug. Oz.
Ooregum	6,602...	6,008...	6,666...	5,100...	5,137...	5,207
Mysore.....	4,033...	4,184...	4,148...	3,395...	3,774...	4,526
Champion Reef ...	3,267...	3,294...	3,503...	4,100...	5,289...	5,501
Nundydroog	1,769...	1,622...	1,720...	2,186...	3,227...	3,020
Balaghat.....	409...	443...	506...	678...	754...	759

THE following is the return furnished by the Collector of Customs, showing the amount of gold, the produce of Western Australia, entered for export during the quarter ending June 30. The total was 40,450 ounces 0 dwt. 5 grains, valued at £153,710 0s. 9d. The total for the March quarter of this year was 35 367 ounces 18 dwts. 13 grains, valued at £134,398 2s. 6d. The gain, therefore, for the last quarter was 5082 ounces 1 dwt. 16 grains, valued at £19,311 18s. 3d. The following are the details:—

	Quantity. Ozs. dwts. grs.				Value. £.	s.	d.
Yilgarn	3,201	2	4	.....	12,164	4	3
Coolgardie	19,209	3	11	.....	72,994	17	3
Murchison	13,328	1	14	.....	50,646	13	11
Ashburton	39	0	0	.....	148	4	0
Pilbarra	4,448	16	0	.....	16,904	6	0
Dundas	58	4	0	.....	221	3	2
Kimberley	165	19	0	.....	630	12	2
Total	40,450	0	5		153,710	0	9

A TELEGRAM, dated Cape Town, September 5, says:—"Messrs Donald Currie and Co.'s Royal Mail steamer *Tantallon Castle* takes gold to England of the value of £85,000.

THE exports from Melbourne, Adelaide, Sydney, and Queensland to Great Britain for the past month have been:—Copper, 600 tons; copper ore, 300 tons; tin, 300 tons.

A SPECIAL notification appears in the *Matabeleland News*, stating that the Bechuanaland Trading Association, as agents for Nobel's dynamite, has been able to reduce the price per case *ex* Buluwayo magazine from £8 8s. to £5 5s.

IT is stated that an important discovery of rubies has been made 70 miles from Buluwayo. A prospector found the gems while panning for alluvial, and "an old Kimberley digger" says that in all probability they indicate the proximity of a diamond wash.

OF the total of 167,953 ounces produced in the Rand district during July, 108,660 ounces came from the batteries, 7258 ounces from concentrates, and 53,241 ounces from tailings; while 3794 ounces were returned through banks from various sources.

WE hear that the newly constituted board of the Kangarilla Mines (Limited) have completed all arrangements with the owners of the French Stewart Process for treating their sulphide ores, and have engaged Mr. H. G. Thorpe, late chief assistant to Professor A. Humboldt Sexton, to proceed to their mine to superintend operations there.

Mr. F. Wilkinson, Assoc. M. Inst., C.E., who has been associated with the well-known firm of Messrs. Bainbridge, for many years Seymour & Co., is now engaged in reporting on various properties in the East. His head-quarters are, we understand, at Constantinople.

FORTHCOMING MEETINGS.

*** We shall be obliged if Secretaries or other Officials of Mining, Railway and other Companies' will be good enough to advise us as early as possible of the date, time and place of their forthcoming meetings - whether statutory, semi-annual, annual, general or extraordinary, confirmatory or adjourned —in order that particulars may be announced for the benefit of our subscribers and more particularly our country readers. Balance sheets, reports and other matter to be submitted at such meetings should, where possible, accompany the intimations of the meetings sent*

Name of Company.	Date.	Nature of Meeting.	Place.	Time.
South Simmer and Jack	Sep. 10	General	Winchester Ho,	3.0 p.m.
North Cornwall Railway.....	Sep. 11	General	26 Ker St Dvnpt.	—
Steel of Scotland	Sep. 11	General	Glasgow,	—
New Spes Bona	Sep. 12	General	Liverpool.	—
Shott's Iron Company	Sep. 12	General	Edinburgh,	—
Central African Exploration	Sep. 13	General	Cannon Street,	1.0 p.m.
Mexican Exploration	Sep. 13		Winchester Ho.	2.30 p.m

COMPANY FINANCE.

Reports, Balance Sheets, Dividends, &c., of Mining and other Companies.

Kangarilla Silver Mine

The following circular has been sent to the shareholders:—Having been elected as your Chairman on 20th June last, I take the earliest opportunity of informing you of the progress your new board has made in the affairs of the company. 1st. We have all been unanimous in the steps we have taken. 2nd. We have paid off in cash all debenture holders who desired it, and allotted priority shares to those who preferred that course. 3rd. We have made much more advantageous terms than previously proposed for the use of the French-Stewart process for treating our ore, and the contract was signed on the 15th August. 4th. We have engaged Mr. H. G. Thorpe, chief assistant to Professor Sexton, Professor of Metallury in Glasgow, and he is now on his way to our mine on board the s.s. *Rome*, which left London on Friday last. We have not only Professor Sexton's high recommendation of this gentleman, but also the approval of the French-Stewart Company to his engagement, to whom he is known as highly qualified to act as our chemical expert. He will also superintend the erection of the requisite plant at the mine. 5th. We have got detailed working drawings and specification of what is required, and an estimate of what its cost would be in this country as a guide (although a rough one) as to its cost in South Australia. Under these circumstances my co-directors, and I feel it our duty to inform your what has been done by the new board: and I venture to think that you will agree that we have not been idle in the short space of only two months since our appointment, and to assure you that, while treating the quantity of ore at grass, we will lose no time in developing our mine by further sinking, and bringing our hitherto unfortunate company (should it be in our power) to a prosperous condition.

St. John del Rey Mining Company (Limited).

In advices just received from Mr. Chalmers, he reports that the difficulties referred to in the last circular sent to you, which were delaying the completion of the plant, have been successfully overcome, and that the work is now going well ahead. All the machinery is being so thoroughly tested that there is every reason to anticipate a satisfactory start being made, and this Mr. Chalmers leads the board to expect will take place on the 21st of this month. A great deal of work has been done in the mine in preparing it for stoping on a large scale; and a new winze (No. 3) in the eastern part, between the timber and tram levels, has been sunk 10 feet 6 inches in solid mineral.

New Louis d Or (Main Reef) Gold Mining Company

The following circular has been issued to the shareholders:—The following is from a letter just received from Mr. Hill, the company's mine manwger:—"The more I see of your property the better pleased I amwith it.—Development: We are pushing on the sinking of the shaft, which will require very little timbering. I propose at first raising the ore by a windlass and kibble down to 60 feet, and then to have either a small engine or whim. I have engaged a good white man as foreman at £1 per day, and I hope to get more kaffirs to-day. I have the wood and galvanized iron to build the kaffir houses; it will cost but very little as we shall erect it ourselves."

The United Langlaagte Mining Company.

The following circular has been issued to the shareholders of the United Langlaagte Gold Mining Company:—"Gentlemen,—I am directed by my board to inform you that it has been considered advisable, after full consideration, to close down the company's battery for a period of six months, or thereabouts, from the 1st proximo. For some time past milling has been carried on for 12 hours only out of the 24, owing to the backward state of development, and the proportionate costs of working have necessarily been higher than when full time has been worked. Under these circumstances your board considered it to be in the best interests of the company that the mill should be shut down for the time being, and that the development of the third level and the opening up of the fourth level should be pushed forward with the greatest possible dispatch. By this step your mine will be placed several months ahead of the battery, and will thereafter be sustained in that very necessary position. The desirability of carrying down a new main incline to connect with the main vertical shaft at the fourth level is under consideration, and if this plan be decided upon the main equipment will be at the new shaft. The erection of a cyanide plant will be proceeded with immediately, the intention being to place these works upon the dip ground recently acquired Should the erection be completed, as is probable before the re-starting of the mill, the treatment of the tailings on hand will be thereupon proceeded with. Mr. Charles Rowe, late general manager of the Geldenhuis Estate and Gold Mining Company (Limited) has been appointed general manager of the company, and takes over his duties as from August 1."

Worcester Exploration and Gold Mining.

The accounts for the half-year to June 30 show that the revenue amounted to £56,485, of which £49,053 came from the mill, £5645 from concentrates, and £1787 from tailings sold. The net profit was £29,902. Dividends of 10 per cent. each time were paid in March and May, absorbing £18,144, and out of the credit balance of £53,633 carried forward on June 30 a further dividend of 20 per cent., or £18,144, has been declared. The expenditure on capital account during the half-year was £5256.

The Bank of Africa.

The report of the directors of the Bank of Africa (Limited) to be presented at the 26th ordinary general meeting of the shareholders to be held at the Cannon-street Hotel on Wednesday, September 19, as follows: After providing for bad and doubtful debts the net profits amount to £17,955 13s. 9d.; add balance from December 30, 1893, £9733 2s. 4d.; less loss by note robbery, per last report, £3200—£6533 2s. 4d., £24,488 16s. 1d., which it is proposed to apply as follows: Dividend of 5s. per share (being at the rate of 8 per cent. per annum) free of income tax, £10,000; Bonus of 1s. 3d. per share (being 1 per cent. for the half year (free of income tax, £2500; transfer to reserve fund, £5000; balance to next account, £6988—£24,488 16s. 1d. The directors report that they have found it necessary to write off £3200 from the amount brought forward from last half year in order to cover the loss by robbery at Johannesburg, which was announced in the last report.

— The NUNDYDROOG COMPANY (LIMITED) has sold the gold obtained during the month of July, which realised £12,032 17s. 7d.

— The BALAGHAT MYSORE MINES (LIMITED) has sold the gold obtained during the month of July, which realised £2922 0s. 8d.

— The MYSORE GOLD MINING COMPANY (LIMITED) has sold the gold obtained during the month of July, which realised £14,554 5s. 3d.

— The NATIONAL BANK OF AUSTRALASIA has opened a branch at Coolgardie, Western Australia.

THE METAL MARKETS.

THE METAL MARKE ONDON, SEPTEMBER 7.

Copper.

THE statistics for August (see page 983) were disappointing, as the opinion had been freely expressed that the figures would show a decrease instead of an increase. The market consequently lost ground until near the close, when some "bear" covering brought about a slight recovery. Consumers in Europe seem, at present, to be well covered, but as to America, the position does not appear quite clear. The production there having been apparently larger than ever, whilst the exports show a decrease, the inference is either that the consumption in the States has enormously increased (which seems doubtful, although it has admittedly improved to some extent) or there is the alternative inference that there must be enormous accumulations of stock in certain quarters there. Before these points are cleared up satisfactorily, the leading people in copper do not seem to favour an improvement very much. The G.M.B. market opened on Monday very quiet, and only about 600 tons changed hands, whilst the spot value declined from £40 5s. to £41 1s. 3d., recovering in the afternoon to £40 3s. 9d. Tuesday's business was done at £40 2s. 6d. and £40 1s. 3d. for cash and only amounted to about 300 tons. On Wednesday about 700 tons were done and as low as £39 18s. 9d. was taken for s.c. The following day brought a continuation of the flatness, and the realisations which took place depressed values still further, £39 17s. 6d. being ultimately touched. To-day £33 18s. 9d. s.c. and £40 6s. 3d. three months were done, and we close steady at £39 18s. 9d. to £40 s.c., and £40 6s. 3d. to £40 7s. 6d. three months.

Tin.

The feature of the week has been a great show of strength on the part of those who are working for a rise, for they have not only taken up large quantities previously bought, and which had become due, but have also bought largish quantities for immediate delivery and immediate cash. The speculator who is so "dead against" the article still continues his operations in antagonism to those who work for a rise, but beyond evincing a great deal of illfeeling, he has not been sufficiently powerful to do any harm to the market. Values, which on Friday morning fell to £71 2s. 6d. s.c., close 10s. better than at the end of last week—viz., at £71 15s. buyers. The statistics for August show only a slight increase for the month. The market opened flat at £71 s.c. Straits, but purchasing by "bulls," brought about an advance to £71 12s. 6d. for the position named, £71 17s. 6d. and £71 15s. being done on the following days, when there were fairish buying orders in the market. On Wednesday the market was very irregular—£72 5s. was paid for three months, £72 10s. for s.c., then £72 12s. 6d. and £72 15s. for three months, £72 7s. 6d., and £72 12s. 6d. s.c., and £73 three months—the day's turnover amounting to 300 tons. Yesterday the market opened firmer again at £72 17s. 6d. s.c., but declined to £72. Early to-day there came a sudden drop to £71 2s. 6d., but this was followed by a rally to £71 15s., and the market closes firm at £71 15s. to £71 17s. 6d. s.c., and the same for three months. In the Dutch market Billiton opened at 43⅜ fl. for both positions s.c. and three months, and rose step by step to 43⅞ fl., closing easier at 43⅜ fl., with Banca at 44½ fl.

Pig Iron.

Shipments from Scotland last week were 2978 tons, or 2145 tons less than in the corresponding period of last year. The Glasgow market opened steady at 43s. 7d. s.c., and ruled within the neighbourhood of this figure throughout the week, the highest price touched being 43s. 8d., and the lowest 43s. 6d. The close is quiet at 43s. 7d., whilst hematite is now quoted 44s. 7½d., and Middlesbro' 36s. 5d., as against 44s. 5½d. and 36s. 4½d., respectively, at the end of last week.

Lead closes steady at £9 18s. 9d. soft foreign, and £10 to £10 2s. 6d. English.

Spelter is steady at £15 11s. 3d. to £15 12s. 6d. for ordinaries, and £15 13s. 9d. to £15 15s. for specials.

Antimony is also quite steady at £32 to £33,

Quicksilver continues firm at £6 10s. firsts and £6 9s.

The following are to-night's (September 7) prices of metals;—

	£	s.	d.		£	s.	d.
Copper.							
Tough cake and ingot	42	2	6	.....	42	12	6
Best selected	42	12	6	.....	43	2	6
Sheets and sheathing		—		.....	51	0	0
Flat bottoms		—		.....	54	0	0
Chili bars ... } spot, & 3 months respectively	39	18	9	.....	40	6	3
Good merchantable, } spot, & 3 months respectively							
Copper tubes, seamless		—		.....	0	0	7¼
Alloys.							
BRASS: Wire		—		.....	0	0	5¾
,, Tubes (solid drawn)		—		.....	0	0	5¾
,, Sheets		—		.....	0	0	5¾
PHOSPHOR BRONZE: Alloys II. ...		—		.....	73	0	0
,, ,, III. or V } Cog Wheel Brand		—		.....	81	0	0
,, ,, VII. ... } Cog Wheel Brand		—		.....	93	0	0
,, ,, XI. ...		—		.....	78	0	0
,, Vulcan brand A1 ...		—		.....	72	0	0
DURO METAL		—		.....	73	0	0
BULL'S METAL...		—		.....	65	0	0
Ferrobronze (Vivian's).							
Ingots ... ...per lb.	0	0	5¾	.....		—	
Ordinary sheets, plates, bolts and bars...	0	0	6¾	.....		—	
Screw bolts and nuts...	0	0	7¾	.....		—	
Pump rods, plain	0	0	8¾	.....		—	
,, finished	0	0	9¾	.....		—	
DELTA METAL: No. 4 (per ton)		—		.....	73	10	
,, Sheets and plates (perlb.)	0	0	10½	.....		—	
,, Bars, round, square, flat (per lb.) ...	0	0	9¾	.....		—	
,, ,, hexagon (per lb.)	0	0	9	.....		—	
Tin.							
English, ingots, f.o.b.	73	10	0	.....	74	10	0
,, bars	74	10	0	.....	75	10	0
,, refined	75	10	0	.....	76	10	0
Straits, spot and 3 months respectively ...		—		.....	71	15	0
Australian spot, and three months respectively ...	71	15	0	.....	72	2	6
Banca ,, (in Holland)	74	15	0	.....	74	17	6
TIN PLATES: Charcoal, best quality ... per box	0	14	0	.....	0	16	0
,, ,, ordinary...	0	11	6	.....	0	12	6
,, Coke, best quality	0	10	9	.....	0	11	0
,, ,, ordinary...		—		.....	0	10	3

These prices of tinplates are f.o.b. at Swansea: at Liverpool 6d. per box more.

Iron.						
Pig, G.M.B., f.o.b., Clyde, spot		—		.....	2	3 7
,, Scotch pig, No. 1 Gartsherrie		—		.....		nominal
,, ,, Coltness		—		.....	2	19 0
,, ,, Clyde		—		.....		nominal
,, ,, Govan		—		.....	2	5 6
Bars, Welsh, f.o.b. Wales		—		.....	5	2 6
Plates ,, ,, ...		—		.....	6	0 0
Bars, Staffordshire, at works		—		.....	5	5 0
Sheets ,, ,, ...		—		.....	6	10 0
Plates ,, ,, ...		—		.....	6	5 0
Hoops ,, ,, ...		—		.....	5	12 6
Ship plates, Middlesborough		—		.....	4	17 6
STEEL: English spring... ... } according to	10	0	0	.....	12	0 0
,, ,, cast ... ... } quality	42	0	0	.....	56	0 0
,, Rails at works, according to section	3	12	6	.....	4	15 0
Lead.						
Spanish or soft foreign		—		.....	9	18 9
English pig, common	10	0	0	.....	10	2 6
,, L.B.		—		.....	10	10 0
,, sheet and bar		—		.....	11	0 0
,, pipe		—		.....	11	10 0
,, red		—		.....	12	5 0
,, white		—		.....	16	10 0
,, patent shot		—		.....	14	0 0
Spelter.						
Silesian ordinary brands	15	11	3	.....	15	12 6
,, special brands	15	13	9	.....	15	15 0
English Swansea	15	3	9	.....	16	5 0
Sheet Zinc	18	15	0	.....	19	0 0
Antimony.						
Antimony	32	0	0	.....	33	0 0
Quicksilver.						
Flasks, 75 lbs. warrants	6	9	0	.....	6	10 0
Ore, c.i.f., U.K. ports		per unit.				
1st quality, 50 per cent. and upwards	0	0	10½	.....	0	0 11
2nd ,, 47 per cent. to 50 per cent.	0	0	9¾	.....	0	0 10⅝
3rd ,, 40 ,, 47 per cent.	0	0	9	.....	0	0 10
Aluminium.						Per lb.
98-99½ per cent. (guaranteed 98 per cent. min.)	In ingots (1 cwt. lots)				0	1 9½
do do	(1 ton lots)				0	1 9
Nickel.						
98-99 per cent. guaranteed	0	1	5	.....	0	1 6

"THE MINING JOURNAL" SHARE LIST.

ABBREVIATIONS AND REFERENCES.—The following are the significations of the abbreviations and references which occur in the Share List:—*Ay*, Antimony; *A*, Arsenic; *Bl*, Blende; *Bx*, Borax; *C*, Copper; *D*, Diamond; *G*, Gold; *I*, Iron *L*, Lead; *M*, Mundic; *N*, Nitrates; *P*, Phosphates; *Q*, Quicksilver *R*, Ruby; *S*, Silver; *S-l*, Silver-lead; *Sul*, Sulphur; *T*, Tin; and *Z*, Zinc. * in the "called up" column of British Mines, signifies that the mine is conducted on "Cost Book" principles: † in the "Head Office" column of African Mines, signifies that the address given is not that of the head office, but of a sub- or transfer office and ‡, following the names of African mines, signifies that they are subject to the Limited Liability Law of the South African Republic.

☞ *The following is by far the most complete and comprehensive list of mines, in whose shares business is being currently transacted, published. Additions will be made from time to time as occasion requires. Every effort is made to ensure accuracy, and Secretaries of Companies, Share dealers, and our readers generally, are cordially invited to co-operate with us to this end, by notifying us of any errors that may at any time occur. We desire it to be understood that, while our Share List will almost invariably be found correct; we do not hold ourselves responsible for any loss or inconvenience that may arise from possible inaccuracies.*

BRITISH MINES.

Name.	Closing Price, Sept. 7, 1894	Closing Price, Aug. 31, 1894.	Par.	Latest Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
			£ s.		£ s. d.			
Atlas .....*T*	—	—	1 0	—	1 0 0	12,000	Devon	Camborne.
Blue Hills ....*CT*	5/- 10/-	10/-	*	2/- May, '81	5 12 6	5,253	Cornwall	Camborne.
Botallack .. ..*T*	1 1⅛	1⅛	*	—	51 4 6	1,880	Cornwall	St. Just.
Carn Brea ..... *T*	7⅞ 7⅝	8⅛	*	2/6 Dec., '93	21 18 5	6,000	Cornwall	Carn Brea.
Cook's Kitchen ..*T*	5/- 10/-	12/6	*	—	35 15 10	4,900	Cornwall	Camborne.
Cumberland .....*L*	— —	—	1 0	5% May, '88	1 0 0	51,588	Cumberland..	7, Angel-court E.C.
Derwentwatr.*CLZ*	—	—	1 0	—	1 0 0	10,450	Cumberland..	Manchester.
Devon Gt Cons.*CA*	20/- 25/-	27/6	5 0	3/- May, '94	2 0 0	10,000	Devon	8, Finsbury-circus.
Dolcoath .....*T*	72 73	70⅛	*	12/6 Apr. '94	9 12 6	4,700	Cornwall	Camborne.
Drakewalls *CTM*	-/3 -/6	-/6	0 5	—	0 2 0	61,856	Cornwall	Dashwood House.
East Grassington *L*	—	—	1 0	—	1 0 0	20,000	Yorkshire.....	5, Copthall-buildings
East Pool .....*AT*	9 9⅛	9⅛	*	1/6 June, '94	0 9 6	8,400	Cornwall	Illogan.
Gawton .....*CA*	—	—	2 10	—	2 7 0	12,000	Devon	20, Great St. Helens.
Great Laxey.....*L*	1 2	2	4 0	5/- Apr., '92	4 0 0	15,000	Isle of Man ..	Douglas, Isl of Man.
Green Hurth ...*L*	1/3 1/9	1/9	1 0	-/6 June '89	0 19 0	32,000	Cumberland..	Newcastle.
Halkyn .....*L*	— —	—	1 0	2/- June, '94	1 0 0	10,000	Flintshire.....	Chester.
Hexworthy .....*T*	— —	—	1 0	—	1 0 0	14,634	Devon	6, Queen-street-place
Isle of Man .....*L*	— —	—	5 0	5/6 Sep. '93	5 0 0	14,000	Isle of Man ..	Chester.
Killifreth .....*T*	2¾ 3	2⅝	*	2/- July, '54	5 11 6	6,000	Cornwall	Truro.
Leadhills .....*L*	17/6 22/6	22/6	6 0	3/- Sep. '92	6 0 0	20,000	Lanarkshire..	30, Finsbury-circus.
Levant .....*CT*	— —	—	*	2/6 July, '94	11 9 6	2,500	Cornwall	Penzance.
Lovell .....*T*	— —	—	*	1/3 Nov., '91	1 16 7	7,165	Wendron	3, Gt. Queen-st., S.W.
Minera.....*L*	— —	—	5 0	5/6 Mar. '90	5 0 0	9,000	Denbighshire.	Minera, N. Wales.
Neath&Tndle.*LZ*	-/6 1/-	1/-	1 0	6% Feb., '91	0 18 0	48,875	Northumberld	Newcastle-on-Tyne
New Balleswidd'n *T*	— —	—	1 0	—	1 0 0	25,000	Cornwall	St. Clement's Ho., E.C
NewCooksKiln.*TC*	— —	—	*	—	10 18 3	4,900	Cornwall	Camborne.
New Minera	— —	—	1 0	1/- Oct., '92	1 0 0	30,000	North Wales...	6 Queen-street-place.
Pedn-an-dres ...*T*	— —	—	*	—	4 3 6	7,000	Cornwall	Redruth.
Phœnix United *TC*	1/- 3/-	3/-	*	1/- Mar. '90	7 4 6	10,666	Cornwall	Tiskeard.
Polberro .....*T*	20/- 25/-	25/-	*	—	3 7 9	18,000	Cornwall	37, Walbrook.
So. Condurrow *TC*	10/- 15/-	15/-	*	3/6 Apr. '93	18 0 0	6,123	Cornwall	20, Great St Helens
South Crofty *TA*	1½ 1¾	1¾	*	—	17 7 6	6,120	Cornwall	Pool, Cornwall.
S. Frances Untd. *T*	6/- 10/	12/6	*	—	2 7 6	6,000	Cornwall	Redruth.
Tincroft .....*T*	12¾ 13	12¾	*	2/- Aug. '94	15 7 6	6,000	Cornwall	Carn Brea.
Weardale .....*L*	7/-	7/-	4 0	1/3 Oct. '90	1 10 0	80,000	Durham.....	3, Lombard-court.
West Frances ...*T*	1½ 2	2	—	2/6 May, '89	16 0 7	6,144	Cornwall	Camborne.
West Kitty .....*T*	6¾ 7¼	7	*	3/- Aug, '94	1 2 0	6,000	Cornwall	37, Walbrook.
Wheal Agar ..*TA*	2¾ 3	3	*	2/6 Aug. '88	23 5 2	6,000	Cornwall	Redruth.
Wheal Basset ...*TC*	1 1¼	1⅛	*	10/- Apr.'88	12 9 6	6,144	Cornwall	Redruth.
Wheal Friendly..*T*	-/6 1/-	1/-	*	—	0 12 9	10,000	Cornwall	110, Cannon-st., E.C.
Wheal Grenville *T*	18⅛ 19⅛	19⅛	*	5/- Aug. '94	18 8 0	6,000	Cornwall	7, Union-court, E.C.
Wheal Kitty.....*T*	12/6 17/6	17/6	*	3/- Mar. '88	4 5 6	8,590	Cornwall	Truro.
Wheal Metal&F.*T*	⅜ ⅝	⅝	*	—	0 13 9	10,784	Cornwall	14, Broad-street Av.

AUSTRALIAN AND NEW ZEALAND MINES.

Achilles Gld Fld.	2/6 3/6	3/6	1 0	—	1 0 0	80,307	New Zealand	3, Church Pas , E.C.
Aladdins Lamp .*G*	15/- 17/6	16/3	1 0	1/- Apr. '54	1 0 0	100,000	N S Wales ...	4-6, Throg. Avenue.
Amana (Went.) *G*	— —	—	1 0	—	1 0 0	75,000	N. S. Wales ..	5, Throg. Avenue.
Amana (Went.) *G*	— —	—	1 0	—	0 12 6	25,000	N. S. Wales ..	5, Throg. Avenue.
Anglo-Saxon ...*G*	— —	—	1 0	2/- July, '88	1 0 0	51,000	Queensland ..	4, Lombard-court.
Australasian .....*G*	1/9 2/3	2/-	1 0	-/6 Mar., '92	1 0 0	210,000	Queensland ..	5, Queen-st. place
Australian .....*C*	— —	—	†0 0	1/6 July '94	7 7 6	18,315	So. Australia	18, Old Jewry Chbrs.
Aus. Bro. Hill Con.	2/3 2/9	2/9	1 0	1/- June, '91	1 0 0	537,138	N. S. Wales ...	Winchester House.
Baker's Creek ...*G*	1¾ 1⅝	1⅝	1 0	1/- July '94	0 17 6	100,000	N. S. Wales ...	Hillgrove, N.S.Wales
Bayley's Reward *G*	1⅜/- 2/-	1⅜/- xd	1 0	-/4 Aug, '94	1 0 0	480,000	W. Australia...	2, Met. Ex. Buildings
Blue Spur & G. G.	-/6 1/-	1/-	1 0	—	1 0 0	80,098	New Zealand	6, Gt. St. Helens'
Bonnie Dundee *G*	3/6 4/-	3/3	1 0	—	0 18 0	120,000	Queensland ..	3-5, Gracechurch-st.
Do. Pref.	— —	—	1 0	2/- May, 94	1 0 0	7,288	Queensland ..	3-5, Gracechurch st.
Brilliant..... *G*	11/- 12/-	12/-	2 0	-/3 Aug. '94	2 0 0	250,000	Queensland ..	Charters Towers.
Brilliant Block ...*G*	1⅞/s 1⅞/s	1⅞/s	2 0	-/9 Aug. '94	2 0 0	250,000	Queensland ..	3, Gracechurch-st.
Brilliant, St. Geo	16/- 18 -	18/-	0 10	3d. Aug. 94	0 6 3	72,000	Queensland ...	Charters Towers.
Brit. Brok. Hill *S*	4/6 5/6	5/6	5 0	—	5 0 0	240,000	N. S. Wales ...	Dashwood Ho., E.C.
Broker Hill Prop.	2½/s 3¼/s	3⅝	8 8	1/- Aug. '94	0 8 0	960,000	N. S. Wales ...	Dashwood Ho., E.C.
Brkn. Hill P. Bl.10	— —	—	10 0	1/- Feb. 94	9 13 0	100,000	N. S. Wales ...	117 Leadenhallst EC!
Brkn. Hill P. Bl.14	— —	—	5 0	—	5 0 0	10,000	N. S. Wales ...	117, Leadenhallst. EC
Carrington.....*G*	1/- 1/6	1/3	12/6	—	0 12 6	100,007	Queensland ...	9, Tokenhouse Yard.
Craven's Cal. ... *G*	4/6 5/-	5/-	0 6	-/3 June '94	0 4 8	100,000	Queensland ..	30-1, S Swithin's-la.
Croydon King B. *G*	— —	—	0 5	—	0 5 0	60,000	N. Queensland	Leadenhall Big. E.C.
Cumbrind (New)*G*	-/9 1/3	1/3	1 0	2/6 Dec. '87	1 0 3	184,890	Queensland ..	Bloomfield House E.C
DayDawn B.&W.*G*	6/- 7/-	7/-	1 0	-/6 Mar. 93	1 0 0	498,400	Queensland ..	3-5, Gracechurch-st.
Day Dawn P. C. *G*	3/9 4/3	4/-	1 0	-/6 Apr. '92	1 0 0	490,000	Queensland ...	Winchester Ho..E.C
Eaglehawk.....*G*	1/- 1/6	1/3	1 0	—	0 19 3	120,000	Victoria.....	31, Lombard-street.
Eng. & Aus.Cop.*Cu*	1/16	1/16	2 0	2½ 1893	1 17 6	70,000	So. Australia	136, Palmerston-bldg
Eng.& Aus 6% Deb.	— —	—	50 0	6% July, '94	50 0 0	700	So. Australia	136, Palmerston-bldg
Ettheridge .....*G*	— —	—	0 5	—	0 5 0	324,290	Queensland ..	3-7, Queen-st.-pl.
Frederick the Gt *G*	— —	—	1 0	—	1 0 0	125,000	Victoria.....	St. George's House.
Glenrock .....*G*	1/- 1/6	1/9	1 0	—	0 19 6	225,000	N. Zealand ..	3-5, Queen-st. E.C.
Great Boulder ...*G*	— —	par.	1 0	—	0 10 0	100,000	W. Australia...	3, Gracechurch st.
Golden Gate.....*G*	1/3 1/9	1/9	0 10	—	0 10 0	180,000	Queensland..	9, Tokenhouse Yard.
Harrietville .....*G*	— —	—	1 0	-/6 July, '90	1 0 0	146,330	Victoria.....	3-7, Queen-street-pl.
Kaboonga .....*G*	1/3 1/9	1/9	0 10	—	0 10 0	500,000	Queensland ..	70 71, Bishopsgate st.
Kangarilla .....*S*	2/3 2/9	2/9	1 0	—	1 0 0	88,275	So. Australia	68, Coleman-street.
Kapanga.....*G*	3/6 4/-	4/-	1 0	-/6 Jan. '91	0 19 0	250,000	N Zealand ..	9, New Broad-street
Kilkivan.....*G*	1/6 2/-	2/-	1 0	—	1 0 0	81,392	Queensland ..	4, Coleman-street.
Midas G. F. .....*G*	— —	—	1 0	—	1 0 0	180,000	Victoria.....	32 Poultry, E.C.
Mills' Day Dawn*G*	1⅝/s 1⅝/s	1⅝/s	1 0	-/6 Sept, '54	0 15 9	300,000	Queensland ..	3, Gracechurch-st.
Moruya .....*GS*	— —	—	1 0	—	1 0 0	59,235	N. S. Wales ..	16, St. Helen's-place.
Mosman .....*G*	1/3 1/9	1/3	1 0	-/3 Jan., '54	1 0 0	185,000	Queensland ..	3-5, Gracechurch-st.
Mt. Leyshon .....*G*	-/6 1/-	1/-	1 0	-/6 Dec. '90	1 0 0	157,989	Queensland ..	7, Draper's-gardens.
Mountain Maid *G*	2/ 3/-	3/-	0 10	—	0 6 3	56,000	Queensland ..	Leadenhall Bldgs.
Mount Morgan *G*	2¾ 2¾ xd	2¾ xd	1 0	-/6 Aug. '94	0 17 6	1,000,000	Queensland ..	50, Lime-street.
Mt. Shamrock *GB*	— —	—	1 0	—	1 0 0	275,000	Queensland ..	9, Tokenhouse-yard.
Mount Zeehan *SL*	-/6 1/-	1/-	1 0	—	1 0 0	193,257	Tasmania	Mansion Ho. Cham.
N. Smithfield .. *G*	— —	—	0 10	2/- July, '94	0 10 0	48,000	Gympie.....	Queensland.
New Queen .... *G*	8/3 8/9	8/9	1 0	-/6 Apr., '94	0 16 8	188,915	Queensland ...	30, St. Swithin's-la.
No. 7 N. E. Queen	-/6 1/-	1/-	5 10	-/3 Sept, '92	0 8 9	96,000	Queensland ...	30, St. Swithin's-la.
PhœnixGold.Pile*G*	— —	—	0 5	-/9 Aug. '94	0 5 0	48,000	Gympie... ...	Gympie, Queensland
Port Phillip .....*G*	— —	—	0 5	—	0 5 0	200,000	Victoria	57, Moorgate-st., E.C.
Queen's Bthdy Un	— —	—	1 0	—	0 10 0	75,000	Victoria	7-8, Gt. Winchester St.
Queens. Smelting	1/16 1/8	1/8	1 0	—	1 0 0	36,244	Queensland ..	9, Tokenhouse Yard.
ScottishAustralian	¾ 1	1	1 0	14-5d. May,'94	1 0 0	200,00	N.S. Wales ..	Winchester Ho E.C.
Sunburst.....*G*	— —	—	0 10	-/6 Mar. '92	0 10 0	150,000	Queensland ..	9, Tokenhouse Yard.
Tasmanian Crown	— —	—	1 0	—	1 0 0	125,990	Tasmania	8, Old Jewry, E.C.
Tipperary .....*G*	— —	—	1 0	—	1 0 0	35,000	N. Zealand ..	3-5, Queen-st., E.C.
True Blue .....*G*	— —	—	1 0	-/3 July, '54	1 0 0	53,000	Australia	Leadenhall Big. E.C.
Victoria Associatn.	— —	—	1 0	-/3 Aug. '94	1 0 0	144,000	Char. Towers	6, Crosby-square
Victory..... *G*	8/- 8/-	8/-	0 8	-/6 Mar., '94	0 5 0	200,000	Queensland ..	32, Gresham-st., E.C
Walhi.....*G*	1¾ 1⅞	1⅜/s	1 0	1/- June '94	1 0 0	150,000	New Zealand	11, Abchurch-la E.C
Wentworth Ord.*G*	3/8 4/6	4/-	1 0	—	1 0 0	350,000	N. S. Wales ..	4-6, Throgmort. Av.
Went. Priority...*G*	7/- 9/-	9/-	1 0	6/- Jan '93	1 0 0	150,000	N. S. Wales ..	4 6, Throgmort. Av.
W. Argentine ....*G*	-/9 1/3	1/3	1 0	—	0 19 6	150,000	N. Zealand ...	3-5, Queen-street.
W. Aust. Concesan	1¾ 1⅝	1⅝/s	1 0	—	1 0 0	25,000	W. Australia...	33, Old Broad st., EC
W.Australian G.F.	2⅞/s 2¾/s	2¾	1 0	—	1 0 0	} 65,000	W. Australia...	28 29, S. Swithin's-la.
W.Australian G.F.	11/3 15/3	15/3	1 0	—	0 4 0		W. Australia...	28-29, S Swithin's-la
Zeehan Montana *S*	— —	—	1 0	8d Aug., 94	1 0 0	66,000	Tasmania	11, Queen Victoria st
Zeehan Montana *S*	— —	—	1 0	5d Aug., 94	0 12 6	12,600	Tasmania	11, Queen Victoria st

EUROPEAN MINES.

Alamillos .....*I*	10/- 15/-	15	2 0	-/6 Sept. '94	2 0 0	35,000	Spain	6, Queen-street-place
Avala .....*Q*	0 ⅛	⅛	1 0	1/- May '93	1 0 0	160,047	Servia.....	4, Tokenho. B'dgs.
Consett Ore ..... *I*	5½ xd	5½ xd	1 0	5/- July '94	1 0 0	55,200	Spain	19, Grey-st., N'castle.
English Cr. Spelter	3½ 5⅝	5⅝	1 0	2½% Aug. '94	1 0 0	84,000	Lombardy	9, Queen-street-place
Fortuna ... . *L*	12/6 17/6	17/6	2 0	1/- Sept. '94	2 0 0	25,000	Spain	6, Queen-street-place
Libiola.....*C*	3⅜ 3⅝	3⅝	5 0	2/6 Aug. 94	5 0 0	50,400	Italy	Dashwood Ho., E.C.
Linares .....*L*	3⅜ 3⅝	3⅜	3 0	5/- Sept., '94	3 0 0	14,998	Spain	6, Queen-street-place
Marbella .....*I*	2¾ 3¼	3	10 0	5/- Mar. '93	10 0 0	25,000	Spain	78, Queen Victoria-st.
Mason & Barry...*C*	2¾ 3¼	3	5 0	2/- May. '94	5 0 0	185,172	Portugal	87, Cannon-street.
Oscar .....*G*	— —	—	5 0	—	0 4 6	117,240	Norway	6A, Austin Friars.
Pestarena .....*G*	2/6 2/-	3/-	3 0	—	3 0 0	67,899	Italy	6-7, Queen-street-pl.
Pontgibaud.....*L*	— —	—	20 0	11/5Dec.'93	20 0 0	14,000	France	6-7, Queen-street-pl.
Rio Tinto .....*C*	14¾/s 15⅝/s	15	10 0	7/- May,'94	10 0 0	325,000	Spain	30, St. Swithin's-lane
Do. (Mort. Bonds)	104 106	106	100 0	6% July, '94	100 0 0	£1892,740	Spain	30, St. Swithin's-lane
Do. (2nd do.)	102 104	104	100 C	5% July, '94	100 0 0	£1024,860	Spain	30, St. Swithin's-lane
Do. (3rd do.)	100 102	102	100 C	5 p.c. July, 94	100 0 0	£987,080	Spain	30, St. Swithin's lane
Ripanji .....*SQ*	12/- 14/-	12/-	1 0	—	0 19 0	95,000	Servia.....	120, Bishopsgt.-st.Wn.
Tharsis.....*C Sul*	4⅜ 4⅜	4⅜	2 0	12½% Mar. '94	2 0 0	625,000	Spain	Glasgow.
West Prus Pre.pref	— —	—	10 0	6% June '94	10 0 0	365	Germany	Walbrook Ho., E.C.
West Prussian Pre.	— —	—	10 0	8% June, '94	10 0 0	5,450	Germany	Walbrook Ho., E.C.
West Prussian Or.	— —	—	10 0	8% June, '94	10 0 0	14,000	Germany	Walbrook Ho., E.C.
Wohlfahrt .....*L*	— —	—	1 0	3% June, '94	1 0 0	99,834	Prussia	17, Victoria-st., S.W.
Wohlfahrt	— —	—	1 0	3% June, '94	0 10 0	9,690	Prussia	17, Victoria-st., S.W.

INDIAN AND ASIATIC MINES.

Name.	Closing Price, Sept. 7, 1894	Closing Price, Aug 31, 1894.	Par.	Latest Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£ s.		£ s. d.			
Asia Minor Pref. *St.*	—	—	0 10	—	0 10 0	42,430	Asia Minor ...	2, Metal Ex. Bldgs.
Do. Ord. ..	—	—	0 10	—	0 9 0	51,584	Asia Minor ..	2, Metal Ex. Bldgs.
Balaghat Mysore*G*	7/- 8/-	8/-	1 0	—	0 18 0	160,000	India	5-7, Queen-street-pl.
Burma Ruby... ...*R*	3/- 4/-	4/-	1 0	—	0 17 0	300,000	Burmah	Suffolk House, E.C.
Champion Reef.. *G*	3 11/16 3 11/16 xd	3 11/16	1 0	2/- Aug. '94	1 0 0	200,000	India	6-7, Queen-street-pl.
Colar Central .. *G*	-/3 -/5	-/6	1 0	—	1 0 0	200,000	India	Dashwood Ho., E.C.
Coromandel..... *G*	1/6 2/6	2/-	1 0	—	0 12 6	95,000	India	6-7, Queen-st.-place.
Do. Ab Mayur .. *G*	— —	—	1 0	—	1 0 0	200,000	India	34, Nicholas-lane.
Gemming&Mining	— —	—	2 0	—	1 7 6	19,594	Ceylon	183, Gresham House.
Gold Fids Mysore*G*	22/- 24/-	24/-	1 0	1/- July '92	1 0 0	220,000	India	6-7, Queen-street pl.
Gold Fids Si m *G*	— —	—	1 0	—	1 0 0	150,000	Siam	19, St. Swithin's-lane.
Hyderabad Dec. ..	— —	—	10 0	—	10 0 0	115,000	Deccan	16, St. Helen's-place.
Kempinkote GdFd	4/- 4/6	4/3	0 5	—	0 3 6	665,473	India	6-7, Queen-st.-place.
Mysore ..... *G*	2 13/16 2 13/16	2 13/16	1 0	2/- July, '94	1 0 0	250,000	India	6-7 Queen-street pl.
My. Harnhalli .. *G*	2/3 2/9	2/9	1 0	—	0 18 0	100,000	India	2, East India Avenue
Mysore Reefs ... *G*	10 6 11/6	11/-	1 0	—	0 19 6	134,788	India	6-7, Queen-street-pl.
Mysore West(N)*G*	8/- 9/-	9/6	1 0	—	0 18 0	127,488	India	Dashwood Ho., E.C.
Mysore Wynaad *G*	7/- 8/-	8/-	1 0	—	0 18 0	250,000	India	Dashwood Ho., E.C.
Nine Reefs .....*G*	4/6 5/-	5/6	0 10	—	0 10 0	50,000	India	6-7, Queen-street-pl.
Nine Reefs ..... *G*	4/- 4/6	5/-	0 10	—	0 9 6	200,000	India	6-7, Queen-street-pl.
Nundydroog..... *G*	1 11/16 1 13/16	1 13/16	1 0	1/- Mar. '94	1 0 0	200,000	India	6-7, Queen-street-pl.
Ooregum(D'C.O.*G*	3⅛ 3¼	3⅛	1 0	4 6 July, '94	1 0 0	145,000	India	6-7, Queen-street-pl.
Do. (10% Pref.)	3⅝ 3⅞	3⅞	1 0	4/- July, '94	1 0 0	95,536	India	6-7, Queen-street-pl.
Do. (10% Pref.)	3 3¼	3¼	1 0	4/- July '94	0 5 0	24,464	India	6-7, Queen-street-pl.
Pahang Corpn. .*T*	7/- 8/-	8/-	1 0	15% Apr. '89	1 0 0	203,070	Malay Penin.	Blomfield Ho., E.C.
Pahang Kabang *T*	1/16 3/16	3/16	1 0	—	1 0 0	394,750	Malay Penin.	4a, Jeffrey's sq., E.C.
South E. Mysore..	4/3 4/9	4/9	0 4	—	0 4 0	134,623	India	6-7, Queen-street-pl.

NORTH AMERICAN MINES.

Alaska Mexican...*G*	—	—	$5	—	$5	160,000	Alaska.....	30, St. Swithin's-la.
Alaska Treadwell*G*	3⅞ 4¼	3⅞	$25	1/6 July, '94	$25	200,000	Alaska...	30, St. Swithin's-la.
Almeda and T ...*S*	-/3 -/9	3⅞	2/6	—	0 2 6	351,048	Mexico	6, Queen-street-place
American Belle...*S*	2/- 2/6	2/9	1 0	-/6 Mar. '91	1 0 0	398,890	Colorado	25a, Old Broad-street
Anglo Mexican ...*S*	— —	—	5 0	3/- Jan. '90	5 0 0	74,850	Mexico	23, College Hill.
Arizona (Pref.) Cu	9/- 9/6	9/6	4 0	—	4 0 0	158,920	Arizona	74, Geo.-st., Edinbor'
Do. 10% Deben.	50	50	100 0	7% May '94	100 0 0	2,680	Arizona...	74, Geo.-st., Edinbor'
Big Creek ..... *Ay.*	—	—	1 0	1/- Dec. '91	1 0 0	80,000	Nevada	2, Pancras-lane, E.C.
California ..... *G*	—	—	0 10	-/6 May '90	0 8 9	129,571	Colorado	St. George's Ho E.C.
Canadian Phos. ..	—	—	1 0	-/6 Nov.'90	1 0 0	73,334	Canada	155, Fenchurch-st.
Colorado Boy.. ...*S*	—	—	1 0	—	1 0 0	112,491	Colorado	Abchurch-chbrs. E.C
Cortes .....*S*	—	—	1 0	3% Feb. '93	1 0 0	300,000	Nevada	Suffolk House, E.C.
Decatur.....*S*.	—	—	1 0	—	1 0 0	32,500	Colorado	35, Queen Victoria-st.
Do..... (Pref.)	—	—	1 0	—	1 0 0	12,500	Colorado	35, Queen Victoria-st
De Lamar.. .....*GS*	17/6 18/6	—	1 0	1/- June '94	1 0 0	400,000	Idaho	6, Draper's-gardens.
Dickens Custer*GS*	-/0 -/3	18/6	1 0	—	0 19 9	420,000	Idaho	Winchester Ho. E.C.
Elkhorn .....*S*	13/6 14/6	15/-	1 0	-/9 July, '94	1 0 0	175,007	Montana	6, Draper's-gardens.
Emma .....*S*	-/2 -/4	-/4	0 5	—	0 5 0	403,618	Utah	15, Geo-st, Mansn. Ho
Flagstaff .....*S*	— —	—	1 0	—	0 18 3	240,000	Utah	Dashwood Ho., E.C.
Fisk.....*G*	— —	—	1 0	6d May, 94	1 0 0	134,000	Colorado	5, Fenchurch st.
Garfield ... . *GS*	— —	—	1 0	-/6 Dec. '92	0 19 6	98,185	Nevada	Suffolk House, E.C.
Golden Feather *G*	9/6 10/6	8/6	1 0	—	1 0 0	180,001	California ...	8, Stephens Cs E.C.,
Golden Gate .....*G*	5/- 6/-	8/6	1 0	—	0 19 6	79,600	California ...	St Stephens Cs E.C.,
Golden Leaf..... *G*	4/- 4/6	2/6	1 0	—	1 0 0	200,259	Montana	8, Draper's Gardens.
Golden Valley...*G*	— —	—	1 0	—	1 0 0	55,507	Colorado	15, Angel Court.
Harqahala..... *G*	6/- 7/- xd	7/- xd	1 0	-/9 June '94	1 0 0	300,000	Arizona	6, Draper's Gardens.
Ho'comb Valley *G*	-/10½ 1/1½	1/-	0 5	—	0 5 0	540,000	California ...	14, Cornhill E.C.
Idaho..... *GS*	1/9 2/3	2/3	0 5	—	0 4 8	143,439	Idaho	140, Leadenhall-st.
Jackson Goldfields	— —	—	5 0	—	0 5 0	408,635	California	11, Poultry, E.C.
Jay Hawk ..... *G*	6/- 7/-	7/-	1 0	-/6 Dec. '92	1 0 0	285,000	Montana	Dashwood House,
Kohinoor "B"*GS*	— —	—	1 0	-/6 June.'91	1 0 0	112,901	Colorado	Bloomfield Ho., E.C.
La Plata..... *S*	-/4⅜ -/7⅛	-/7⅛	0 5	1/3 Oct. '92	0 4 3	405,000	Colorado	11, Poultry, E.C
La Yeres .....*GS*	— —	—	1 0	—	0 18 0	76,015	Mexico	20, Bucklersbury, EC
Maid of Erin ...*S*	— —	—	1 0	4c. pshMar.'94	1 0 0	575,000	Colorado	43, Threadneedle-st.
Mammoth Gold ..	-/3 -/8	-/6	1 0	—	1 0 0	400,000	Pinal Arizona.	237, Winchester Ho.
Mesq. d'l Oro (P) *G*	— —	—	5 0	—	5 0 0	10,000	Mexico	Dashwood Ho., E.C.
Mesq. d'l Oro (') *G*	— —	—	5 0	—	5 0 0	10,000	Mexico	Dashwood Ho., E.C.
Montana ..... *GS*	14/6 15/6	15/6	1 0	5% April '91	0 19 0	857,138	Montana	Gresham House, E.C.
New Colorado ...*S*	— —	—	1 0	—	0 17 0	85,000	Colorado	Abchurch Cham E C
N. Consolidated*SC*	— —	—	0 5	—	0 3 6	248,576	Nevada	15, Angel-court, E.C
N. Gold Hill.....*G*	-/2 -/4	-/4	1 0	—	0 19 9	191,045	N. Carolina ...	15, George-st., E.C.
New Guston ..... *S*	13/9 16/3	16/3	1 0	1/- Oct. '92	1 0 0	110,000	Colorado	25a, Old Broad-st.
New Hoover Hill*G*	— —	—	0 10	-/9 Dec. '89	0 10

"THE MINING JOURNAL" SHARE LIST—(Continued).

SOUTH AND CENTRAL AMERICAN MINES—(*Continued*).

Name.	Closing Price, Sept. 7, 1894	Closing Price, Aug. 31, 1894.	Par.	Latest Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£ s.		£ s. d.			
Santa Barbara ...*C*	—	—	0 10	1/3 Dec. '88	0 10 0	60,000	Brazil.....	Liverpool
Santa Elena .....*N*	1⅜ 1⅝	1⅜	5 0	5/- Nov. '93	5 0 0	22,000	Tarapaca	3, Gracechurch-st.
Santa Rita .....*N*	4¼ 4½	4¾	5 0	15% Apr., '94	5 0 0	20,000	Chili	DashwoodHouse,E.C
San Sebastian ...*N*	2¼ 2¾	2⅝	5 0	1/8 May '94	5 0 0	29,000	Chili	DashwoodHouse,E.C
Segovia .....*G*	— —	—	5 0	—	0 4 0	160,000	Colombia	5, Copthall-buildings
Segovia .....*G*	— —	—	1 0	10% July '94	0 15 0	840	Colombia	23, St. Swithin's ln.
Sierre Pref.....*G*	— —	—	1 0	8% July '94	1 0 0	10,000	Colombia	23, St. Swithin's ln.
Sucre Ord.....*G*	— —	—	1 0	—	0 19 6	200,000	Colombia	5, Copthall-buildings
Tetuan .....*G*	— —	—	5 0	10% Aug. '94	5 0 0	14,000	Colombia	18, Finsbury-circus.
Tolima "A" .....*S*	8¾ 9¼	9¼	5 0	10% Aug. '94	5 0 0	6,000	Colombia	19, Finsbury-circus.
Do. "B" .....*S*	7¼ 7¾	7¾						
Vic. & Altam.ra ...	— —	—	0 5	—	0 5 0	200,000	Venezuela ...	Broad-st. Avenue.
West Indian.....*G*	— —	—	0 5	—	0 5 0	700,000	San Domingo	49, Queen Victoria-st.
Zaruma .....*G*	— —	—	0 5	—	0 5 0	261,422	Ecuador.....	1, Gt. Winchester-st.

AFRICAN MINES.

Name.	Closing Price, Sept. 7, 1894	Closing Price, Aug. 31, 1894.	Par.	Latest Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£ s.		£ s. d.			
Africkander..... *G*	1¼ 1⅜	1¾	1 0	—	1 0 0	40,000	Transvaal	19, St. Swithin's-lane
Agnes Block..... *G*	10/- 12/-	11/-	1 0	—	1 0 0	76,507	Transvaal	54, Old Broad-street.
Alexandra Estate*G*	4/6 5/6	4/-	1 0	—	1 0 0	225,000	Witwatersrd.	Warnford Court, EC
Appantoo..... *G*	— —	—	1 0	—	1 0 0	71,000	West Coast ..	9, New Broad-street.
Aurora ..... *G*	5/- 7/-	6/-	1 0	5% Mar.'93	1 0 0	65,000	Witwatersrd.	8, Old Jewry.
Aurora West, New*G*	4/- 6/-	7/-	1 0	5% Mar., '93	—	80,000	Witwatersrd.	1, Crosby Square.
Balkis Eersteling*G*	-/9 1/3	1/3	0 10	—	0 9 6	520,000	Transvaal	85, Gracechurch-st.
Balkis Laud	2/- 2/6	2/-	0 10	—	0 10 0	520,000	Transvaal	85, Gracechurch-st.
Banket..... *G*	-/9 1/3	1/3	1 0	—	1 0 0	200,000	Witwatersrd.	Johannesburg.
Bantjes Reef .....*G*	13/6 14/6	14/6	1 0	—	1 0 0	83,000	Witwatersrd.	Warnford-court,†
Barrett..... *G*	3/6 4/-	3/6	0 10	—	0 9 0	207,495	De Kaap	17, Basinghall-street
Bechuanaland Exp.	25/- 26/-	27/6	1 0	—	1 0 0	200,000	Bechuanaland	19, St. Swithin's-lane
Block "B" Lung.	7/- 8/-	8/-	1 0	—	1 0 0	535,000	Witwatersrd.	8, Prince-s-st., E.C.
Booysen Land ..*G*	7/- 9/-	8/-	1 0	—	0 11 0	95,000	Transvaal....	3, Princes st., E.C.
Do. Pref.....	-- --	—	1 0	8% Mar., 94	0 10 0	71,174	Transvaal.....	4 Token-house-bldg.
Brit. S. A. Char. ...	36/6 37/6	36/6	1 0	—	1 0 0	2,000,000	S. Africa	19, St. Swithin's-lane
Buffelsdoorn .....*G*	27/- 29/-	29/-	1 0	—	1 0 0	250,000	Potchef-troom	8, Old Jewry.
Buluwayo Synd. ...	1 1¼pm	1½pm	1 0	—	1 0 0	17,000	Matabeleland	10, Helen's Place.
Cape Copper .....*C*	15/16 17/16	1⅜	2 0	1/3 June '94	2 0 0	300,000	Cape Colony	9, Queen-street-place,
Do. 6 p c Pref.	1 15/16 2 1/16	2 1/16	2 0	1/3 June '94	2 0 0	45,000	Cape Colony	9, Queen-street-place.
Cen. Montrose.. *G*	1/- 2/-	2/-	1 0	—	0 18 6	69,000	Transvaal ...	15, George st. Mn. Ho.
Champ d'Or ..... *G*	2⅛ 2⅜	2⅜	1 0	—	1 0 0	116,016	Witwatersrd.	8, Old Jewry, E.C.
Champ d'Or Deep*G*	11/- 12/-	11/6	1 0	—	1 0 0	275,000	Witwatersrd	Fox st., Johannesbrg
City and Suburb.*G*	15½ 15¾	15½	1 0	25% Mar. '94	1 0 0	75,000	Witwatersrd.	1, Crosby Square.
Coetzeestroom ...*G*	1/- 2/-	2/-	0 5	—	0 5 0	140,000	De Kaap	108, Leadenhall-street
Con. Bultfontein *D*	26/- 27/-	29/6	1 0	5% Nov. '89	1 0 0	721,500	Griqualand W	62, Lombard-st.
Con. Deep Levels*G*	2 2⅛	2⅛	1 0	4/- June '94.	1 0 0	187,250	Transvaal	30, St. Swithin's-lane.
Con. G. Fields S A	2⅜ 2⅜	2⅛	1 0	10% Nov. '93	1 0 0	2,250,000	S. Africa	8, Old Jewry.
Do. 5½% Deben ..	99⅛ 100½	100⅝	5 0	5½ July, '94	5 0 0	6 0,000	S. Africa	8, Old Jewry.
Crown Reef .....*G*	8⅜ 8⅝	8⅝	1 0	25% May '94	1 0 0	120,000	Witwatersrd.	23, Austin Friars.
De Beers Consol. *D*	16 16¼	16½	5 0	12/6 June '94	5 0 0	789,791	Transvaal	62, Lombard-street.
Do. 5½% 1st Deb..	103 104	103	100 0	5½% Feb. '94	5 0 0	£1,875000	Transvaal	62, Lombard-street.
Do. 5½% Bul. Ob	103½ 104½	104	100 0	5½% Apr. '94	5 0 0	£720,100	Transvaal	62, Lombard-street.
Durban Roodepl.*G*	6 6¼	6	1 0	3/- June '94	1 0 0	£125,000	Witwatersrd.	28, Leadenhall-bldgs.
East Rand.....*G*	13/6 14/6	13/-	1 0	—	1 0 0	572,000	Witwatersrd.	170, Winchester-ho.
Evelyn .....*G*	— —	—	1 0	10% Jan. '89	1 0 0	66,000	Witwatersrd.	28, Old Jewry, E.C.
Exploration 1	17/6 22/6pm	20/- pm	1 0	1/- Dec. '93	0 4 0	148,000	S. Africa	30, S. Swithin's-ln.
Exploring Co.	4¾ 5	5	1 0	25/- Feb. '94	1 0 0	69,350	S. Africa	19, S. Swithin's-ln.
Ferreira ..... *G*	8¼ 8¼	8½	1 0	100% June '94	1 0 0	45,000	Witwatersrd.	29, Holborn Viaduct,
Forbes Reef(Nw)*G*	3/- 5/-	5/-	1 0	—	0 19 0	105,000	De Kaap	45-6, Leadenhall-st.
Geldenhuis Deep*G*	4¼ 4¾	4⅝	1 0	—	1 0 0	265,000	Transvaal	30, St. Swithin's-lane.
Geldenhuis Est.. *G*	5¼ 5¾	5⅜	1 0	20% Mar. '94	1 0 0	187,500	Witwatersrd.	29 & 30, Hol. Viaduct
Do. Main Reef	13/6 14/6	10/6	1 0	—	1 0 0	150,000	Witwatersrd.	Warnford-court, E.C.
George and May *G*	17/6 20/-	20/-	1 0	—	—	112,750	Witwatersrd.	Warnford Court, E.C
George Goch ...*G*	— —	—	1 0	—	1 0 0	100,000	Witwatersrd.	Johannesburg.
Glencairn .....*G*	31/6 32/6	33/6	1 0	5 p c Aug. 94	1 0 0	200,000	Witwatersrd.	2, Drapers-gardens.
Gold Estates T....*G*	3/6 4/6	4/6	1 0	15% Dec.'89	0 10 0	130,000	Transvaal	48, Queen Victoria-st
Gld. Fls. Deep...*G*	15/16 ⅞	⅞	1 0	—	1 0 0	600,000	S. Africa	8, Old Jewry.
G. F. of Mashonld.	17/8 18/-	13/9	1 0	—	1 0 0	200,000	Mashonaland	19, St. Swithin's ln.
G.F.Tierra d' Fuego	2/1½ 2/4½	2/4½	0 4	—	0 4 0	400,000	Mosambique..	2, Tokenhouse Bldgs.
Grahamstown ... *G*	8 6 9/6	9/-	1 0	—	1 0 0	150,000	Witwatersrd.	14, Throgmorton-st
Graskop .....*G*	1/9 2/3	2/-	0 5	2½% Mar. '93.	0 5 0	500,000	Lydenburg ...	85, Gracechurch-st.
Griqualand W....*D*	6¾ 7	7	10 0	4% March '94	10 0 0	105,700	Transvaal	62, Lombard-street
Henry Nourse ...*G*	37/16 39/16	3⅛	1 0	—	1 0 0	100,000	De Kaap	Warnford-court.
Heriot (New) ...*G*	5¼ 5⅛	5⅛	1 0	—	1 0 0	195,000	Witwatersrd.	1, Crosby Square.
Joe's Luck ..... *G*	3/8 4/8	3/-	1 0	—	1 0 0	57,464	De Kaap	11, Queen Vic.-st.
Johannesburg Por	3⅝ 3⅞	3¾	1 0	12½% Nov.,'93	1 0 0	21,000	Witwatersrd.	Johannesburg.
Jubilee .....*G*	5⅛ 5¼ xd	5⅜ xd	1 0	30% Aug. '94	1 0 0	30,000	Witwatersrd.	8, Old Jewry.†
Jumpers .....*G*	4½ 4¾	4⅜	1 0	30% June '94	1 0 0	100,000	Witwatersrd.	29, HolbornViaduct,†
Kimberley .. ..*D*	1/16 3/16 pm	3/16pm	1 0	—	0 10 0	98,672	Kimberley ...	19, Finsbury circus.
Kimberley Rdpt....	10/- 11/-	⅜	1 0	—	1 0 0	125,000	Kimberley ..	2, Drapers-gardens.
Kleinfontein (N)*G*	1 13/16 1 15/16	1 15/16	1 0	—	1 0 0	150,000	Witwatersrd.	8, Old Jewry.
Klerksdorp .....*G*	1/- 1/6	2/-	1 0	—	1 0 0	150 007	Transvaal	110, Cannon-street.
Koffyfontein.....*D*	25/- 17/6	17/6	1 0	—	0 5 0	50,000	Jacobsdaal ...	4, Bishopsgate street.

AFRICAN MINES—(*Continued*).

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			£ s.		£ s. d.			
Langlaagte Est. *G*	4¼ 4½	4⅝	3 0	12½% June '94	1 0 0	467,000	Witwatersrd.	59, Holborn Viaduct.
Do. Royal	3⅛ 3⅜	2⅛	1 0	5% Sept. '93	1 0 0	100,000	Witwatersrd.	2, Drapers-gardens.
Lisbon-Berlyn .. *G*	2/3 2/9	3/-	2/6	—	0 2 6	884,233	Lydenburg ...	110, Cannon-street.
London & S. A. Ex.	10¾ 11¼	—	0 10	3/- June '94	0 10 0	100,000	S. Africa	19, Finsbury-circus.
Luipaards Vlei Est.	8/6 9/-	9/-	1 0	6% Mar. '90	1 0 0	319,093	Witwatersrd.	Warnford-court.
Do. do. do.	⅛ ¼	¼	1 0	—	0 10 0	25,000	Witwatersrd.	8, Old Jewry.
Main Reef (New)*G*	8/- 10/-	10/-	1 0	—	0 10 0	300,000	Witwatersrd.	8, Old Jewry.
May Consol. .....*G*	9/- 10/-	9/6	1 0	—	1 0 0	430,000	Witwatersrd.	4, Lothbury.
May Deep Level *G*	10/- 11/-	10/6	1 0	—	1 0 0	146,000	Witwatersrd.	33, Cornhill, E.C.
Mashon Agency...	5/16 5/16pm	5/16 pm	1 0	—	0 10 0	100,000	Mashonaland	8, Old Jewry, E.C.
Mashon. Central...	— —	—	1 0	—	1 0 0	200,000	Mashonaland	8, Old Jewry, E.C.
Matabeleland	— —	—	12/6	—	0 12 6	70,389	Matabeleland	73, Basinghall St, E.C.
Metropolitan (N) *G*	17/6 20/-	16/3	1 0	—	1 0 0	75,090	Witwatersrd.	1, Crosby Square.
Meyer & Charl....*G*	6⅛ 6⅜	6⅜	1 0	25% June '94	1 0 0	71 687	Witwatersrd.	Warnford-court.
Mines Trust	⅝ ¾	¾	1 0	3% May '94	1 0 0	82,774	So. Africa	130, Winchester Ho.
Modderfontein .. *G*	1⅛ 1¾	1⅛	1 0	—	1 0 0	200,000	Witwatersrd.	Warnford-court.
Montrose..... *G*	— —	—	1 0	3/- Feb. '90	1 0 0	70,000	De Kaap	65, New Broad-street
Moodies G.&E....*G*	8/- 9/-	9/-	1 0	-/4 May '90	1 0 0	240,000	De Kaap	8, Old Jewry.
Mozambique.....	12/8 15/-	13/9	1 0	—	1 0 0	400,000	S. E. Africa ...	Broad-street House.
Namaqua .....*C*	18/9 21/3	20/-	2 0	2/6 July '91	2 0 0	194,331	Namaqualand.	54, Leadenhall-blds.
New Black Reef ...	—	6/6	1 0	—	1 0 0	76,000	Witwatersrd.	9, King William st.
New Chimes.... *G*	2 2½	2⅛	1 0	10% June, '94	1 0 0	70,000	Witwatersrd.	8, Old Jewry, E.C.
New Clewer Estate	⅞ 1	1	1 0	—	1 0 0	100,000	Lydenburg ...	29-30, Holborn-viadt.
New Cresus..... *G*	1¼ 1⅜	1⅜	1 0	5 % Aug. '92	1 0 0	195,000	Langlaagte ..	4, Bishopsgt.-st. Wt.
New Edwin Brav	— —	—	7 0	—	7 0 0	65,000	De Kaap	23, College Hill.
New Gordon.... *D*	2/- 3/-	3/-	1 0	5% Dec. '89	1 0 0	560,250	Griqualand ..	110, Cannon-street.
New Jagersf. ...*D*	13⅜ 13⅝	13⅝	10 0	5% Mar., '94	10 0 0	100,000	Transvaal	5, Copthall-buildings
New Louis D'Or..*G*	6/3 6/9	5/-	1 0	—	1 0 0	100,000	Witwatersrd.	53, New Broad-street
New Primrose ...*G*	4⅛ 4⅜	4⅛	1 0	20% July '94	1 0 0	230,000	Witwatersrd.	2, Draper's-gardens.
New Rietfontein*G*	1¼ 1½	1⅛	1 0	—	1 0 0	160,000	Witwatersrd.	Warnford ct., E.C.
New S. Augustine*D*	-/6 -/9	-/7⅛	1 0	—	0 19 0	234,583	Griqualand W	30-1, St. Swithin's-ln
New Spes Bona ...	6/- 8/-	7/-	1 0	—	1 0 0	113,801	Witwatersrd.	24, N. John-st., Lpl.
New Virginia ...*G*	3/6 4/-	4/3	0 10	—	0 10 0	48,235	Transvaal	26, Budge-row, E.C.
Nigel .....*G*	3⅛ 3⅛	3⅛	1 0	15% June '94	1 0 0	160,000	Witwatersrd.	1, Crosby-square.
Nooitgedacht E. *G*	— —	—	1 0	—	1 0 0	160,000	Lydenburg ..	8, Old Jewry.
Oceana	1 15/16 2 1/16	2	1 0	25/- Nov. '89	1 0 0	150,000	Transvaal	4, Sun Court, E.C.
Oceana Developmt	½ dis par	½dispar	1 0	—	0 5 0	50,000	Transvaal	4 Sun Court, E.C.
Orange F.S.E. ...*D*	4 4½	4¼	1 0	12½ Mar. '94	1 0 0	284,000	Orange F. State	10, Moorgate-street.
Orion..... *G*	— —	—	1 0	10% Aug. '94	1 0 0	30,000	Witwatersrd.	19, Basinghall-street
Otto's Kopje.....*D*	2/6 3/-	2/3	1 0	—	0 19 3	437,888	Kimberley ...	112, Cannon-st., E.C.
Paarl Central ... *G*	19/- 21/-	21/-	1 0	—	1 0 0	138,750	Transvaal	29-30, Hol. Via., E.C.
Paarl Ophir ..... *G*	— —	—	1 0	10p.c. Aug.'94	1 0 0	12,000	Tweefontein ..	Cape Town.
Pardy's Mozambq.	— —	—	0 10	10p.c. Apr. 94	0 10 0	13,000	S. E. Africa ...	Broad St. Avenue.
Piggs Peak, New *G*	2/6 3/6	2/6	1	—	0 16 6	230,326	Swaziland ...	6, Queen-street-place
Potchefstoom ... *G*	2/6 3/6	2/-	1 0	—	1 0 0	161,000	Potchefstroom	19, Bury-st., E.C.
Princess Estate *G*	18/9 21/3	21/3	1 0	—	1 0 0	72,046	Witwatersrd.	33, Cornhill, E.C.
Randfontein .....*C*	15/8 16/-	16/-	1 0	—	1 0 0	1,916,500	Witwatersrd.	59, Holborn Viaduct.
Rand Mines ..... *G*	9¾ 10	9¼	1 0	—	1 0 0	332,708	Witwatersrd.	29-30, Holborn Via.
Read's Drift ..... *D*	7/6 8/6	9/6	1 0	—	—	57,000	Transvaal	19, Finsbury circus.
Robinson .....*G*	6⅜ 6⅝ xd	6⅝	5 0	5% Aug. '94	5 0 0	543,750	Transvaal	55, Holborn Viaduct.
Roodepoort Un. *G*	2 15/16 3 1/16	3⅛	1 0	10p.c. Aug. '94	1 0 0	100,000	Witwatersrd.	Warnford-court.
Salisbury New ...*G*	2⅜ 2⅝	2⅜	0 10	—	0 10 0	93,000	Witwatersrd.	1, Crosby-square.
Sheba .....*G*	28/- 29/-	29/6	1 0	1/- July, '94	1 0 0	614,450	Lydenburg ...	85, Gracechurch-st.
Silati .....*G*	2/9 3/3	3/-	1 0	—	0 17 6	625,000	Zoutpansberg.	4, Sun Court, E.C.
Simmer & Jack...*G*	7⅞ 8	7⅞	1 0	10% May '94	1 0 0	85,000	Witwatersrd.	33, Cornhill.
S.A. Gold Trust ...	1 5/16 1 7/16	1 5/16	1 0	10% April '93	1 0 0	220,000	South Africa..	8, Old Jewry.
S. Simmer & Jack*G*	1 1/16 1 3/16	1 3/16	1 0	—	1 0 0	120,000	Witwatersrd.	31, Lombard-st., E.C.
Spitzkop (New) *G*	11/6 12/6	11/6	1 0	—	0 19 6	99,070	Lydenburg ...	15, Bishopsgt-st. Wt.
Stanhope ..... *G*	2⅜ 2⅝	2¼	1 0	50% July. '94	—	34,000	Witwatersrd.	1, Crosby Square.
Sutherland R. ...*G*	4/9 5/3	4/9	1 0	—	0 18 6	220,000	Zoutpansberg.	3, Budge-row, E.C.
Teutonia..... *G*	— —	—	1 0	—	1 0 0	98,000	Witwatersrd.	8, Old Jewry.
Thistle Reef ..... *G*	-/8 1/-	1/-	0 9	—	0 4 0	150,000	Barberton	15, Angel-court, E.C.
Trans. Coal Trust...	13/6 14/6	13/6	1 0	2½% May '94	1 0 0	439,965	Witwatersrd.	Broad-st. House, E.C
Trans. Est. & Dev.	9/6 10/6	9/6	1 0	—	1 0 0	285 700	Transvaal	76, Old Broad-st. E.C.
Trans. Gold .....*G*	2⅜ 2⅝	2 5/16	1 0	1/- June '94	1 0 0	250,000	Transvaal	Suffolk House, E.C.
Trans. Land...	6/- 7/-	5/9	1 0	—	1 0 0	79,915	Transvaal	Suffolk House, E.C.
Trans. Land	2/6 3/6	2/6	1 0	—	0 15 0	169,999	Transvaal	33, Cornhill.
Treasury.....*G*	— —	—	1 0	7½% May '94	1 0 0	26,000	Witwatersrd.	Johannesburg.
Turffontein Est. ...	— —	—	1 0	2½ Jan. 94	1 0 0	40,007	So. Africa	130, Winchester Ho.
Un. Ivy Reef.....*G*	13/9 16/3	16/3	1 0	2½ Jan. '94	1 0 0	45,000	Transvaal	110, Cannon-street
Un. Langlaagte *G*	10/- 12/6	12/6	1 0	—	1 0 0	100,000	Witwatersrd.	23, St. Swithin's-ln.
Van Ryn .....*G*	1 7/16 1 9/16	1 9/16	1 0	—	1 0 0	99,810	Witwatersrd.	1, Crosby-square.
Victory Hill .....*G*	— —	—	1 0	—	1 0 0	108,000	De Kaap	Portland House, E.C.
Village Main Reef	4 4¼	4⅛	1 0	—	1 0 0	132,000	Witwatersrd.	8, Old Jewry.
Wassau .....*G*	— —	—	1 0	—	1 0 0	100,000	Gold Coast ...	147, Cannon-street.
Wemmer .....*G*	5 5¼	5	1 0	10% Nov. '91	1 0 0	55,000	Witwatersrd.	19, Bury-street.
Witwatersrand *G*	24/8 25/-	24/6	1 0	—	1 0 0	250,000	Witwatersrd.	19, Bury-st., E.C.
Wolhuter .....*G*	3 3¼	3	1 0	—	1 0 0	120,000	Witwatersrd.	Warnford-court.
Wolverand.....*G*	⅜ ⅜	⅜	1 0	2/- Apr., '94	1 0 0	18,750	Transvaal	5, Copthall-buildings
Wolverand.....*G*	— —	—	1 0	—	0 18 0	39,021	Transvaal	5, Copthall buildings
Worcester .....*G*	3⅛ 3¼	3 1/16	1 0	20% Aug. '94	1 0 0	90,727	Witwatersrd.	8, Old Jewry.
Zambesia Explora.	2⅝ 2⅞	2⅞	1 0	—	1 0 0	45,000	Transvaal	13, George-st., E.C.

COAL, IRON, AND MISCELLANEOUS COMPANIES.

Name.	Closing Price, Sept. 7, 1894	Closing Price, Aug. 31, 1894.	Par.	Latest Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£ s.		£ s. d.			
African Gold Recv	1 7/16 1 9/16	1⅜	1 0	1/- Oct. 93	1 0 0	175,000		23, College Hill, E.C.
Albion Steam	11⅜ 11⅝	11¼	10 0	10 p c Feb. 94	10 0 0	22,000	Pontypridd ..	6, Crosby-sq., E.C.
Aluminium, "A"	1 1¼	1¼	1 0	2/6 Sept. 89	1 0 0	80,000		13, Abchurch Lane
Andrew Knowles...	11¾ 12	12	50 0	14s Mar. 94	35 0 0	24,400	Pendlebury ...	Pendlebury, nr Man.
Do do	27 31	31	50 0	7/6 July 94	50 0 0	600	Pendlebury ...	Pendlebury, nr Man.
Do Mort. Debts.	101 103	103	100 0	5 p c July 94	103 0 0	£125,000	Pendlebury .	Pendlebury, nr Man.
Arniston	25¾	25¾	10 0	25s May 94	8 0 0	6,500	Arniston	10, S. Andw-sq Edin.
Ashbury Carr, Co.	19 22	20⅝	50 0	2s/- Oct. 92	50 0 0	3,000		Openshaw, M n.
Do do	1½ 2½	2	11 0	3/3 Oct. 92	6 10 0	9,822		Openshaw, Man.
Aus. Gold Recovry	¾ ⅞	5/16	1 0	...	1 0 0	160,000		23, College Hill, EC
Barrow Hem. Ord.	1¾ 2¾	2¼	7 10	...	7 10 0	150,000	Barrow-in-Fur	10, S. Swithin's-lane
Do 6 p.c. Pref. ..	4¾ 5¼	5¼	7 10	...	7 10 0	50,000	Barrow-in-Fur	10, S. Swithin's-lane
Bolckow Vaughan	12 12⅝	12⅝	20 0	10s Mar. 94	20 0 0	81,488	York&Durhm.	6, Philpot-lane.
Do do	6¾ 6¾	6¾	20 0	6s Mar. 94	12 0 0	93,045	York&Durhm	16, Philpot-lane.
Do 5 p c. Pref.	21¾ xd	21¾ xd	20 0	5 p c Feb. 94	20 0 0	23,604	York&Durhm	16, Philpot-lane.
Cairntable	8 8¾	8⅛	10 0	10 p c Dec. 93	10 0 0	6,038	Scotland	102, Welling-st. Glas
Calderbank Steel&c	2 2½	2¼	10 0	2½ Oct. 91	10 0 0	15,000	Near Glasgow	63, Vincent-st., Glas
Do 6 p c Pref ...	7⅛ 7⅝	7⅛	10 0	6 p c Oct. 91	10 0 0	1,000	Near Glasgow	63, Vincent st., Glas
Cassel Gold Extng	15/-	14/3	1 0	7½% Dec. 93	1 0 0	160,000		157, W. Geo. St., Glas
Do 3rd Issue ...	7/9	7/9	1 0	...	0 15 0	30,000		157, W. Geo. St., Glas
Consett Iron.....	20¼ 21¾	21¾	10 0	9s July, 94	7 10 0	100,000	Durham	Consett, Co. Durham
Do 8 p. c. Pref	10 10¼	10¼	8 0	4s July, 94	8 0 0	100,000	Durham	Consett, Co. Durham
Cowdenbeath	14 14¾	14¾	10 0	15 p c Aug. 94	8 10 0	15 000	Fife.....	Cowdenbeath, Fife.
Do 5 p. c. Pref.	10¾ 10⅞	10⅞	10 0	5 p c Feb. 94	10 0 0	1,000	Fife.....	Cowdenbeath, Fife.
D. Davis and Sons	12¼ 13¼	13¼	10 0	10 p c Aug. 94	10 0 5	45,000	Rhondda	155, Leadenhall-st.
Ebbw Vale.....	8¾ 9¾	9	23 0	10s June 94	20 0 0	69,754	South Wales..	122, Cannon-street.
Do do	10 10⅝	10¾	23 0	10s June 94	23 0 0	4,721	South Wales..	122, Cannon street.
Fife Coal	29⅜ 29⅞	29⅞	10 0	3 p c Aug. 94	8 0 0	12,000	Fife.....	Leven, Fifeshire.
Fraser & Chalmers	1 1⅛	1⅛	5 0	4/- Oct. 91	5 0 0	105,000		42, Threadneedle st.
Gen. Mining Assoc	7 7⅛	7⅛	8 0	15/- Apr., 94	8 0 0	27,469	Nova Scotia ..	Bloomfield House, EC
Granville	... ...	...	30 0	...	30 0 0	1,400	Swadlincote..	Swadlincote.
Great Western (A)	8¼ 8¾ xd	5	5 0	6 p c Mar. 94	5 0 0	10,000	Pontypridd ...	35, W. Bute-st., Cdff
Do do (B)	4¼ 5	8¾ xd	5 0	10 p c June 94	5 0 0	50,000	Pontypridd ...	35, W. Bute-st., Cdff
Great Wyrley	...	...	100 0	...	100 0 0	600	Great Wyrley	Gt. Wyrley, Walsall
Hamstead	20½	2 1/16	20 0	10/- Aug. 94	20 0 0	5,000	Great Barr ...	Gt. Barr, nr. Birm.
Do 7½ p c Pref	32¾	32½	20 0	15/- Aug. 94	20 0 0	5,000	Great Barr ...	Gt. Barr, nr. Birm.
Henry Briggs (A)	12⅞ 13½	13½	15 0	18/9 Aug. 94	12 10 0	12,965	Normanton ...	Whitwood, Yorks.
Do do (B)	9¼ 9⅝	9¼	15 0	12/9 Aug. 94	8 10 0	11,405	Normanton ...	Whitwood, Yorks.
International	3¾ 3¼	3⅜	5 0	...	5 0 0	13,820	Glamorganshi	59, Mt. Strt.-sq., Cdff
J. Brown & Co., ..	14¼ 15½	15½	20 0	7/8 July 94	15 0 0	58,000	Yorkshire	12, Pinchch-st., EC†
Do 5 p c Pref..	11 11¼	11¼	10 0	5 p c June, 94	10 0 0	18,000	Yorkshire	12, Pinchch st., EC†
John Watson	12½ 12¾	12¼	10 0	12s May, 94	8 10 0	13,333	Lanark&Stirlg	123, Vincent-st., Glas
Do 6 p.c. Pref.	12⅜	12¼	10 0	...	10 0 0	6,666	Lanark&Stirlg	122, Vincent st., Glas
Lofthouse	6¾ 7	6¾	4 0	...	3 0 0	18,658

REPORTS FROM THE MINES—(Continued.)

ALMADA AND TIRITO.—Report for fortnight ending August 11: Dios Padre. The lode in the 350 feet level driving north is small and at present without ore. In the 250 level driving north the lode is large, well defined, and carries a good wall. It has a promising appearance, and yields a little ore. The 250 level driving south was communicated with San Jose shaft, and on clearing the debris will improve the ventilation. The lode yields small quantities of green ore. The stopes throughout continue to yield ore in paying quantities, the grade of the ore having again improved.

ANTIOQUIA.—Mr. J. H. White's report on the mines—Frontino Mine, May 5: Section 1, main lode, No. 4 level. The mineral in the end improved during the month, but it will be some time before we can gain ground for stoping, as the former workers stoped out above the level farther west than the end. Two stopes were worked in the bottom of No. 3 to lower the floor, and drive the end at a level which will allow us to drive an intermediate level between Nos. 2 and 3, as the distance between these levels, of 16½ fathoms, is too much for rising in such hard ground. Rise from No. 3, 1 fathom risen. We have now started the intermediate level, which carries 14 inches of mineral, the rise only 6 inches. Until the ends of the levels are advanced sufficiently, and the rise communicated to No. 3 Escobar, we have nowhere to put more men stoping.—Section 3, Grupero lode. No. 3. The lowest level driven was advanced 8 feet, the mineral got squeezed out owing ro a bunch on the foot-wall, but is now making again. We have one stope working above this level, three in No. 1, and three between Nos. 4 and 5. We cleared off the surface ground west of No. 5, where a junction of strings of mineral takes place; the Grupero lode is disordered for a short distance, it continues its average width west, but its value is not up to the average. We are lowering or levelling the floor of No. 2 Escobar, but have not yet reached the point where the mineral makes of a fair width, as our near surface this lode also breaks up into strings.—No. 3 Escobar. Old No. 1 below Posada, the mineral is improving fast, and in the end is now 13 inches wide, the rock is that which encloses the Escobar lode and the mineral the same, but we are still carrying in the end a string which belongs to the main lode, the junction of these two lodes here and their breaking up into strings on nearing the surface, makes us doubt somewhat which one we are driving on, but every day seems to show more clearly we have the Escobar lode here. During the month we suspended work on the tunnel, and the cost on capital account is chiefly for timber and work on the pumping wheel, and troughs for bringing in the water. Now I have persuaded myself the various workings pay, I will increase as fast as possible the number of men engaged in taking out mineral, and start some works, in the beginning unproductive, to open up the Escobar lode, — July 3: Section 1, main lode, Drift under No. 4 has improved in mineral, and is easier for driving. No. 4 end has also improved, and carries 2 feet of mineral, which pays. Stopes under No. 3 continue to give good mineral. End of No. 3 in very bad country and little mineral. We are driving it west so as not to stope out the floor of the old level, No. 2 Posada, to obtain a fall from west to east for the water. No. 2 Posada carries no mineral of value, and the 35 fathoms to be taken away would not give any returns, whilst No. 3 main lode gives some gold. Rise from No. 3 having risen to where No. 2 should be, and not finding it driven so far west I have suspended rising. The mineral is narrow, but of good quality, and from the rise I am drifting out west.—Escobar lode. I have no doubt we have this lode in the level, which in old times was called No. 1 Posada, and now must be considered as No. 3 Escobar. The lode improves every fathom we drive, and now is 2 feet 3 inches wide. It does not carry as much gold as I expected, but is also improving in value as we drive. We are now nearly in to the rise from No. 3 main lode, but away south about 8 feet. As soon as I get perpendicular with the rise I shall cross cut. I am very pleased with this result, as we shall have a lode which is of a good value and entire, except from No. 2 up to surface. The very hard ground the lode is in is a drawback, and causes, or will cause delay in opening up the lode. We must attack this lode from the old workings on the main lode, which means cross cuts in very hard rock, as the Escobar lode does not break out to surface, and only seems to improve as it gets away from the influence of the main lode. Now I am sure of what I am doing, I shall increase the number of miners.—No. 2 Escobar old 1875 level. We have carried in a work, lowering the floor of the level 4 feet, to where the mineral makes, and will do so to the end of the level so as to retimber overhead and secure themselves from the old works, arches, &c., which are in a very broken up state. I am arranging for sinking, as it will be some time before the No. 3 will reach this point under No. 2, and in the meantime the winze will gain time. No. 3 enters in diorite the rock of the main lode; its end is in a hornblendic rock, which is characteristic of the Escobar lode, and this shows their formation to have been at different epochs, and the diorite cuts off the Escobar lode near surface. In No. 3 Grupero lode there is a slight improvement; we are only driving this end. There is a general improvement all round, and our expectations of the Escobar lode having turned out well, it is only natural to hope that every month will see us in a better position. I will increase the men, as now I see constant work for them. We are cleaning the farm and preparing to plant some 5000 coffee trees as a trial, near the sugar plantation; this latter is in a very satisfactory state, and the crop will begin to be fit for cutting in August, and the panela we consume at the mine will come out free of cost, as this will be covered by the produce I can sell.—J. Henry White

APPANTOO.—Copy of Captain Worgent's report dated August 4 for month of July: George's adit. Have driven 10 feet east and 10 feet west on reef during month, making a total of 37 feet. Size of lode in faces 16 feet.—George's adit No. 2. This is situated 40 feet above the first mentioned adit. Have cut the reef during past month at a distance of 107 feet from surface, and connected it with George's adit by sinking on the hanging wall a distance of 45 feet, at a cost of 1s. 6d. a foot; so now there is ventilation in both adits, and when needed can fill in stopes with dirt from surface.—Prestea tunnel. This was driven 38 feet during the month, making a total of 228 feet; should intercept new reef, visible outcrop on surface, in another 30 feet, and Cawston shaft in another 75 feet. Am afraid shall not be able to commence cross cut from Cawston shaft to intercept the main lode, although such development is most important until some labour now putting another cross cut in towards shaft is available.—Swift's adit. Cannot do anything here this month on stone, must stop and lay rails along levels east and west; also conduct air throughout. When done will push along the eastern level towards Cawston shaft.—Thompson's tunnel. Distance driven during month by contractor 18 feet, making a total of 154 feet from entrance, of which 100 feet is permanently timbered; size of lode 8 feet. If labour was available could commence stoping.—Worgent's tunnel. Distance driven 23 feet, making a total of 63 feet. Have had a fall of ground here in the face while going through the native workings which ran right to the surface (35 feet), and as we wanted such a connection at this point I took no steps to prevent it, so that what we would have to do by other means is now done for us.—Essians tunnel west. Have taken out the old sets and reef on hangingwall which was left for 28 feet, and retimbered it with strong double sets leaving 62 feet yet to do. Size of lode 18 feet. When completed could start stoping if labour was available.—Essians tunnel east. Have taken out old sets and retimbered 18 feet, making a total of 46 feet retimbered, to which can be added 24 feet reopened over the old timber on top of winze. Have another [illegible] feet yet to be renewed before turntable is reached. When this [illegible] and labour available there will be over 100 feet of a [illegible] of lode, 6 feet.—Adit shaft Essians tunnel. Have [illegible] and sunk it 95 feet during month with com[illegible] is comple[illegible] 7 feet by 4 feet. The country in stope ready; si[illegible] that we have had to blast commenced this shaft [illegible] pany basse boys; size of shaft [illegible] to put a stick of which this shaft is being sunk is so hard [illegible] it from the commencement. There is no nee[illegible] timber in it yet. When a depth of 50 feet is attained will crosscut to reef as quickly as possible; and further, if permitted, will work a cage in this shaft, and thus take a truck of ore from the face to battery without any rehandling as at present by buckets.—Harvey's shaft. No work done here. Boys engaged sinking the new one in adit.

BONANZA GOLD.—The 400 stamp mill at this company's property is running at full capacity day and night, crushing about 80 tons of ore per day. The aerial tramway has been recently repaired and improved, and now conveys from 100 to 120 tons of ore from the mine to the mill in a working day of ten hours. The mine and tramway are capable of supplying ore sufficient to run 100 heads of stamps, for which there is more than ample water power. The cost of mining and milling is less than $2 per ton. Taking all grades of rock, the ore will average $8 per ton, and is easily extracted from ledges varying from 6 feet to 30 feet in width. Correctly speaking, there are three ore chimneys or chutes in the property which unite in depth. Vigorous development work in the deeper levels has disclosed richer ore than that encountered above, gold being visible to the naked eye. The porphyry seams intersecting the quartz assay as high as $1400 per ton, while the quartz itself will at various points mill from $15 to $45 per ton. Surveys have been made for starting No. 4 tunnel on the north west side of the mountain, to cut the ledge 650 feet deeper than the present lowest tunnel, which is now 650 feet below the croppings. Croppings of the ledge at the point selected to start this tunnel give a value of from $4 to $5 per ton.

CHIAPAS.—Mine report for fortnight ending July 31: Providencia Aver driven 14 feet 6 inches, in all 84 feet 6 inches. Continues looking fairly good. Assay value this week 18 dwts. gold, 3 ounces 18 dwts. silver, and 1·87 per cent. copper; 1 ounce 9 dwts. gold, 4 ounces 10 dwts. silver, and 2·9 per cent. copper; 5 dwts. gold, 4 ounces 5 dwts. silver, and 2·9 per cent. copper. Santa Fe drift driven 10 feet 6 inches; total, 108 feet. Communicated with Taylor north west branch or No. 2 stope. Assays. 15 dwts. 12 grains gold, 7 ounces 9 dwts. 12 grains silver, and 4·02 per cent. copper; 14 dwts. 12 grains gold, 7 ounces 5 dwts. 12 grains silver, and 4·37 copper; 10 dwts. gold, 6 ounces 8 dwts. silver, and 3·98 per cent. copper, after communicating with No. 2 stope.—Santa Fe winze crosscut north west. Commenced crosscut and pump station. Driven 13 feet 6 inches. Sylva crosscut advanced 11 feet; total, 37 feet 6 inches. Commenced second crosscut, or Sylva crosscut No. 2.—Sylva crosscut No. 2. Commenced at right angles from end of Sylva crosscut No. 1 to get under east side of Taylor No. 3. Advanced 5 feet 6 inches.—Taylor crosscut north east No. 1. Driven 8 feet 6 inches; total, 79 feet 6 inches. Cut through some 2 feet of white quartz mixed with garnet and pyrites. Assays 6 dwts. gold, 10 dwts. silver; trace of copper. Still in the same kind of rock but lower in value though showing gold in the pan.—Providencia No. 2 South Hill drift (prospecting) driven 12 feet, in all 22 feet. Shows free gold in the pan in places, but do not expect to strike course of ore deposit yet.—Taylor No. 3 stope. Extracted 145 tons. Assays. 14 dwts. 12 grains gold, 12 ounces 4 dwts. 12 grains silver, and 5·25 per cent. copper; 18 dwts. 11 grains gold; 3 ounces 5 dwts. 4 grains silver, and 5·44 per cent. copper; 11 dwts. gold, 7 ounces 17 dwts. silver, and 5·44 per cent. copper.—Santa Fe stope and Taylor No. 2 stope (now all under the name of Santa Fe stops). Extracted 263 tons. Assays. 7 dwts. 6 grains gold, 6 ounces 4 dwts. silver, and 3·3 per cent. copper; 12 dwts. 12 grains gold, 7 ounces 5 dwts. 12 grains silver, and 4·14 per cent. copper; 15 dwts. gold, 9 ounces 2 dwts. silver, and 4·66 per cent copper; 8 dwts. gold, 6 ounces 8 dwts. silver, 4·66 per cent. copper.—Providencia Aver. Extracted 85 tons as given above by assay.—Old Providencia. Extracted 306 tons. Assays. 1 ounce 8 dwts. gold, 14 ounces 19 dwts. silver, and 10·59 per cent. copper; 1 ounce gold, 10 ounces 17 dwts. silver, and 60·2 per cent. copper; 1 ounce 1 dwt. gold, 13 ounces 19 dwts. 12 grains silver and 6·02 per cent. copper. Continues to look well and keeps up good quality.—Notes. Sylva crosscut No. 1 extends 12 metres from centre of No. 3 winze 49° south of west. Providencia Aver is running very nearly parallel with Providencia Main.—Providencia No. 2 hill prospecting drift. Centre of mouth tunnel is 160·40 metres from the centre mouth of Providencia Main 35° 30 south of west.

GELDENHUIS MAIN REEF.—1429 ounces 14 dwts. gold realised £4702 10s. 3d; net working expenses for July £3624 11s. 3d.; profit for the month £1077 19s. In the working expenses as above is included all development work, which is now well ahead of the mill; so much so that the manager has recommended an immediate addition of five head of stamps to the mill.

MACATE.—Under date July 28, the manager writes:—San Enrique ore is still one of the freest milling ores I ever dealt with, carrying no sulphurets, and at no time can a trace of free gold be found in the tailings. As I told you before, this appears to be your future mine. Only yesterday in opening a new cut on the course of the lode some wonderful ore with a quantity of gold visible was struck. Every day we continue to lay open fresh reserves of ore, which, being proved on all sides, cannot reasonably be expected to alter materially in quality in the bulk.

NEW GUSTON.—The following information has been received from the mine: Output for June month—Ore shipped 1550 tons value (estimated) $17,710, mine expenses $10,290. Output for July month—Ore shipped 1060 tons, value (estimated) $15,750, mine expenses $11,265. Output for August month—Ore shipped 1500 tons. —Shipments. Owing to disputes with the Silverton Railroad, on a question of the rates of freight, a cessation of shipments took place, from July 15 to July 26, which accounts for the small shipments for July month.—Developments. The mine is now in a position to ship much larger quantities of ore, but owing to the limited capacity of the Silverton smelter for storing ore, and pending the smelting of the ores already accumulated in the ore bins, shipments from the mine have to be limited in amount. Smelter. It is reported that the Silverton smelter is treating the ores most successfully, and, in order to smelt pyritic ore—available in excess of its present capacity—the smelting company contemplate erecting another furnace to double its output, as soon as all the circumstances bearing on the question warrant it being done; the mine will then have a ready market for its accumulated reserves of ores, and be able to largely increase its output.—The mine superintendent, under date 8th August, reports, viz.:—No. 6 level midway drift stope. Length of stope 21 feet, height over back of drift 21 feet, width of ore 3 feet, character of ore iron pyrites, value 20 to 28 ounces silver per ton, gold ¼ to 4-10 ounce per ton.—Midway drift cross drift stope. Length of stope 50 feet, height over back of drift, north end stope, 14 feet for 30 feet in length, width of ore 13 feet, height of south end of stope over back of drift 10 feet for 20 feet in length, width of ore 3 feet, character of ore iron pyrites intermixed with yellow copper ore. Value of iron pyrites ore 26 to 60 ounces silver per ton, gold 4-10ths to 6-10ths ounce per ton. Value of yellow copper ore 150 to 250 ounces silver per ton, gold 1 ounce to 2 ounces per ton, copper 6 to 12 per cent.—No. 9 level south drift. Distance driven 3 feet, total distance driven from shaft crosscut 145 feet. There is iron pyrites in the forebreast for the full width of the drift, value of ore 6 ounces silver per ton, gold 15-100 ounces per ton.—South drift stope. Length of stope 82 feet, height over back of level from 12 feet to 22 feet, width of ore being extracted (for length of stope) from 13 to 19 feet, actual width of ore throughout the stope from 16 feet to 23 feet. Three classes of ore are being met with, viz.: (1) Peacock, (2) yellow copper, (3) iron pyrites, value of ores: (1) Peacock copper, 150 ounces silver per ton, gold three-tenths to one-half ounce per ton, copper 22 to 30 per cent., (2) yellow copper 14 to 40 ounces per ton, gold three-tenths to one half per ounce per ton, copper 8 to 15 per cent., iron pyrites 7 to 16 ounces silver per ton, gold two-tenths to one-half ounce per ton, copper 3 to 8 per cent.—South drift No. 2 stope. Operations have been suspended here for the time, until we raise the main stope (on the south side of the raise shoot) higher. —No. 10 level south drift. Distance driven 10 feet, total distance driven from shaft crosscut 120 feet. There is no change to report in appearance of drift.—South drift No. 1 stope. Length of stope 60 feet, height over back of level 10 feet, width of ore being extracted from 6 feet to 17 feet, average width of ore (for length of stope) being taken out 11 feet, full width of ore for about 95 feet in length, from 17 feet to 20 feet.—Character of ore (1) Peacock copper, (2) yellow copper, (3) iron pyrites.—Value of ores, (1) peacock copper 130 to 150 ounces silver per ton, gold 3-10ths to ½ ounce per ton, copper 30 per cent., (2) yellow copper 14 to 35 ounces silver per ton, gold 3-10ths to ½ ounce per ton, copper 8 to 14 per cent., (3) iron pyrites 7 to 16 ounces silver per ton, gold 2-10ths to 4-10ths ounce per ton, copper 3 to 7 per cent.—No. 11 level, North drift. Operations have been suspended here for the time until the raise is communicated with the winze sunk from the south drift at No. 10 level.—North drift raise. Height raised over back of level 9 feet, width of ore from 12 to 16 feet. The ore having settled heavily on the timbers where the cross cut intersects the ore we have decided, before carrying the raise up any higher, to take a stope off from the south end of the raise across over the south drift for a short distance, in order to preserve the drift timbers. Three classes of ore are being met with here, viz.:—(1) Peacock copper, (2) yellow copper, (3) iron pyrites.—Value of ores. (1) Peacock copper, 150 to 250 ounces silver per ton, gold ½ ounce per ton, copper 34 per cent., (2) yellow copper 14 to 35 ounces silver per ton, gold 3-10ths to ½ ounce per ton copper, 8 to 14 per cent. (3) Iron pyrites, 9 to 13 ounces silver per ton; gold, 2-10ths to 3-10ths ounce per ton; copper, 3 to 6 per cent. A bulk sample taken from the orehouse on August 7 assayed gold 5¾ ounces per ton; silver, 22½ ounces per ton; copper, 10 per cent. We frequently meet with free gold associated with bornite copper and heavy spar.—South drift. Distance driven 15 feet, total distance driven from shaft crosscut 47 feet, width of ore in forebreast 4 feet. Character of ore: (1) peacock copper, (2) yellow copper, (3) iron pyrites. Value of ores same as in the raise.—No. 12 level south drift. Distance driven south from shaft crosscut 11 feet. Ore 2 feet wide, value 6 to 12 ounces silver per ton, gold 1-10th to ¼ ounce per ton, copper 2 to 4 per cent. From present appearances the south drift will have to be driven from 45 to 60 feet south before encountering the body of ore met with in 9, 10, and 11 levels.

PESTARENA.—September 3: 46 east on No. 1 lode. A little ore has come in during the month. The lode averages 15 centimetres wide, and its appearance is promising.—55 and 70 east. The lode is very disturbed at present.—70 east on A and B lodes. Both branches have become smaller, but an improvement is soon expected.—90 west on No. 1. The branch of ore is 40 centimetres wide, producing 4 tons per fathom at 1 ounce, and promises to open up some good stoping ground.—140 west on No. 5. The lode has considerably improved, yielding 3 tons per fathom at 1 ounce 10 dwts. and looks most promising.—Crosscuts. At the 55, crosscuts have been started north and south in search of ore shoots on the Acquavite lode. No change in the other crosscuts.—Stopes on No. 1 lode. At the 55 there are two stopes yielding 7 tons at 2 ounces, and 8 tons at 2 ounces respectively. One at the 70 yielding 6 tons at 1 ounce 10 dwts., and one at the 90 yielding 7 tons at 1 ounce 10 dwts.—On the caunter lode. A stope at the 55 gives 3 tons at 1 ounce, one at the 90 yields 5 tons at 1 ounce 5 dwts., and another at the 120 yields 4 tons at 1 ounce. The operations at Stabioli and Kint call for no special comment. At Val Toppa the lode at the Carbonicca d'Alberto is 1·50 metre wide, and well defined, but carries no ore. Two men are employed prospecting. The Pozzone Mine has been forked to a depth of 25·45 metres, and the lift has again been lowered.—W. H. Trelease, T. H. Messa.

ROODEPOORT UNITED MAIN REEF.—Report for the month of July: Mine. Number of feet driven, sunk, and risen, 451 feet; quartz mined, 3,799 tons; quartz developed in excess of that mined, 2,654 tons.—Mill. Number of days working 30 stamps, 29½ days; number of tons crushed, 3,799 tons; yield in smelting gold, 1,772 ounces 2 dwts.; yield per ton, 9 dwts. 7·90 grains.—Cyanide works. Number of tons of tailings treated, 7,196 tons; yield in smelted gold, 1,288 ounces; yield per ton, 3 dwts. 13·91 grains. The 200-h.p. engine and boilers for driving the mill is now in full running order; and the erection of the 20 additional stamps (making in all 50 stamps of heavy type) has been commenced and will be in working order by the end of September. A complete electric plant will shortly be erected on the property. The enlargement and timbering of the main incline shaft on No. 3 block is well forward.

SHEBA.—The following report has been received from the general manager for the month of July: Mine. No. 4 level. No. 28 winze has been completed through to No. 5 level, and a chute fixed by which we are running down ore to send to the mill from the old quarry dump.—No. 5 level. The west drive has been pushed forward 27 feet.—No. 6 level. No. 31 winze is down 15 feet, and was commenced immediately under No. 21, and will form our second line of winzes west of the incline shaft.—No. 7 level. The west drive has been extended 14 feet. No. 29 winze a little west of, and in continuation of, No. 31 was sunk 16 feet.—Low level tunnel. During the month the company working two faces from the Sheba low level shaft made by hand labour on the west end 50 feet, and by rock drills on the east end, 48 feet.—No. 8 level. The west drive extended 8 feet. No. 3 north crosscut driven 13 feet. No. 30 winze continuing the line of 31 and 29, located and sunk 13 feet.—No. 9 level. The west drive extended 5 feet in payable ore. No. 1 north crosscut made 5 feet in poor rock. No. 2 north crosscut advanced 22 feet in poor rock. No. 1 south crosscut advanced 5 feet through rich rock, one assay showing over 22 ounces to the ton.—West stope. On this the contractors broke a quantity of very good ore, with visible gold in many places.—Annie's Fortune. The tunnel was continued 22 feet 6 inches, and a crosscut put in south west 12 feet 6 inches. An incline shaft following near the apparent hanging wall was commenced and sunk 13 feet, and a contract has been let to continue it.—Oriental. A shaft has been commenced to connect with the old Oriental Good Hope winze, in order that the hoisting engine should be erected on the surface instead of being exposed to the dampness underground; this shaft is down 22 feet, 18 feet of which, passing through debris and shale, has been timbered.—New work. A small dam has been built across the creek between the quarry and Annie's Fortune, conserving a small stream of water, hitherto not used. This is now used to drive a small Pelton wheel, giving more than sufficient power to drive one of the fans used to carry air to No. 7 level. We hope to drive the fan on No. 8 and 9 levels by the same means, and later on the bellows in the blacksmith's shops. The motor for hoisting trucks on the cyanide works has at last been started, as is working well. The two motors which were originally intended for driving the large rock breaker at the loading station have been removed, and are now being fixed in addition made to the building containing the two air compressors, and adjoining the machine shop. They will be all ready for use when the wire arrives from England. We hope by the use of these to almost dispense with steam [illegible] except as an alternative power, in case of breakdown or acc[illegible].—Oriental dam. The core wall has been completed, solidly built throughout. The packing in front or upside of the dam is now all completed, on the downside the work is making good progress.

UNITED GOLD FIELDS OF MANICA.—Return of mining work done during the two weeks ending July 14: Adit No. 1. Distance driven 3½ feet, total length 563 feet, day shift only. Rock very hard.—Adit No. 3. Chamber 8 feet by 5 feet cut, 30 feet distant from reef to the north and on west side of drive.—Winze. Windlass made and erected over this winze. Body of quartz struck dipping north showing visible gold and panning well.

VICTORIA AND ALTAMIRA.—Mr. Broc writes as follows, Victoria and Altamira Mine:—"I am very pleased that your board has chosen such a man as Mr. Santelli to take charge of the mine. We will work shoulder to shoulder to make a good reputation for the Victoria Mine. Things are looking up and taking a new turn, and we shall be able to help you from our side." Mr. Santelli announces his arrival, and says: "I am convinced that with a little patience and outlay I shall be able to give life to the mine, and put it on a footing of lucrative production. By next mail I expect to be able to send you a full report, which, I believe, will give satisfaction to all who are interested in this enterprise."

WENTWORTH EXTENSION.—Report dated July 28: East cross cut driven 4 feet, length 196 feet; no change. West cross cut driven 8 feet, length 154 feet. The diorite is softer, and carries stringers of calcite. Prospecting shaft No. 4 sunk 16 feet for drainage, drive advanced 6 feet, length 81 feet; alluvial continues to show good prospects.

DEFECTIVE ORIGINAL

CHAMPION REEF.—Superintendent's report for the fortnight ending August 13: Garland's shaft. The 740 feet level north of shaft has been driven 31 feet, total length 31 feet. Lode in present end 2 feet 3 inches wide, assaying 2 ounces 10 dwts. of gold per ton. 740 south of shaft driven 30 feet, total length 30 feet. Lode 1 foot 9 inches wide, assaying 1 ounce 15 dwts. 5 grains of gold per ton. The 630 feet level north of cross cut, west of shaft, has been driven 27 feet 3 inches, total length 128 feet 3 inches. Lode 2½ feet wide, assaying 2 ounces of gold per ton. No. 1 rise in back of level risen 23 feet 6 inches, total height 58 feet 6 inches. Lode 4 feet wide, assaying 1 ounce 19 dwts. of gold per ton. Winze below 630 south of cross cut sunk 17 feet 3 inches, total depth 44 feet 9 inches. Lode 3 feet wide, assaying 19 dwts. 10 grains of gold per ton. The 530 feet level north of west cross cut has been driven 27 feet 9 inches, total length 609 feet. Lode 2½ feet wide, assaying 1 ounce 19 dwts. of gold per ton. No. 4 rise in back of level risen 8 feet 9 inches, total height 76 feet 3 inches; this is communicated with 440 feet level north. The 440 feet level north of west cross cut has been driven 18 feet 9 inches, total length 520 feet. Lode 2 feet wide, assaying 2 ounces 4 dwts. of gold per ton. No. 3 rise in back of level risen 12 feet 9 inches, total height 39 feet 9 inches. Lode 3 feet wide, assaying 1 ounce 15 dwts. of gold per ton. No. 4 new rise in back of level, 100 feet north of No. 3, risen 15 feet 6 inches. Lode 6 feet wide, assaying 2 ounces 14 dwts. of gold per ton. 340 feet level south of No. 2 west cross cut at 340 north has been driven 28 feet 9 inches, total length 130 feet 9 inches. Lode 1½ foot wide, assaying 1 ounce 3 dwts, 14 grains of gold per ton. No. 3 rise in back of 340 north of No. 1 west cross cut risen 25 feet 9 inches, total height 121 feet. Lode 3½ feet wide, assaying 1 ounce 18 dwts. 6 grains of gold per ton. No. 2 winze below level sunk 8 feet 9 inches, total depth 124 feet 3 inches. Lode 3½ feet wide, assaying 1 ounce 8 dwts. 20 grains of gold per ton. Winze below 240 north of west cross cut, north of shaft, sunk 17 feet 9 inches, total depth 81 feet 9 inches. Lode 3 feet 6 inches wide, assaying 1 ounce 11 dwts. 16 grains of gold per ton.—Ribblesdale's shaft. We have completed the cutting of the bottom plat at the 540 feet level, and have sunk the shaft 2 feet 9 inches, total depth 566 feet 3 inches. Lode small and without value. The 540 feet level north of shaft has been driven 20 feet 9 inches, total length 88 feet 6 inches. Lode 6 inches wide, assaying 2 ounces 7 dwts. of gold per ton. 440 feet level south of shaft driven 10 feet 3 inches, total length 383 feet 6 inches. We have suspended the driving of this level and are now cross cutting east. The cross cut has been driven 8 feet. 440 feet level south of west cross cut, north of winze, sunk below 340 north of shaft on south part of fold, has been driven 30 feet 3 inches, total length 46 feet. Lode 3 feet wide, assaying 2 ounces 2 dwts. 4 grains of gold per ton. The 340 feet level south of shaft driven 4 feet, total length 713 feet 9 inches. At this point we commenced a cross cut east which has been driven 19 feet 3 inches, and intersected an eastern part of the lode 3 feet wide, assaying 14 dwts. 3 grains of gold per ton. We are now driving south on this part. Rise in back of 340 south of shaft risen 12 feet, total height 111 feet. Lode 9 inches wide, assaying 16 dwts. of gold per ton. New rise in back of 240 south to communicate with stope below 200 feet level risen 7 feet 3 inches. Lode 1 foot wide, assaying 2 ounces 9 dwts. 11 grains of gold per ton.—Carmichael's shaft. We are still engaged bringing down this shaft to sink on the lode below the 440 feet level, and are making fair progress. The 315 crosscut west of shaft has been driven 26 feet, total length 438 feet 6 inches. The strata is rather hard at present.—Rowe's shaft. This has been sunk 11 feet 3 inches. Total depth below the 315 feet level 72 feet. Lode smaller; is now 1½ feet wide, assaying 2 ounces 13 dwts. of gold per ton. The 315 north of shaft driven 19 feet 3 inches, total length 170 feet 3 inches. Lode 2 feet wide, assaying 13 dwts. 18 grains of gold per ton. This being near the northern boundary is suspended. New winze below level a little behind the end has been sunk 4 feet. Lode 2 feet wide, assaying 15 dwts. of gold per ton. Winze below 315 feet level south of shaft sunk 8 feet 6 inches, total depth 41 feet 9 inches. Lode 4 feet wide, assaying 12 dwts. 19 grains of gold per ton. Rise above level risen 15 feet, total height 94 feet. Lode 4½ feet wide, assaying 15 dwts. 6 grains of gold per ton.—Stopes, Dalyell's shaft. Stope in back of 620 north, north of 530 south winze cut 26 fathoms 5 feet 6 inches. Lode 6 feet wide, assaying 1 ounce 10 dwts. of gold per ton. Stope south of winze cut 31 fathoms 2 feet 6 inches. Lode 6 feet wide, assaying 18 dwts. of gold per ton. This is suspended for a time. Stope in back of 620 north of north rise cut 4 fathoms 6 inches. Lode 6 feet wide, assaying 1 ounce 15 dwts. of gold per ton. Stope south of rise cut 20 fathoms 3 feet 9 inches. Lode 3 feet wide, assaying 1 ounce 7 dwts. 5 grains of gold per ton, Stope in back of 620 north of 530 north winze cut 3 fathoms 3 feet 3 inches. Lode 2½ feet wide, assaying 1 ounce 19 dwts. of gold per ton. Stope south of winze cut 5 fathoms 4 feet 3 inches. Lode 1 foot wide, assaying 11 dwts. of gold per ton. Stope in back of 620 south north of 530 south winze cut 6 fathoms 1 foot, Lode 2 feet wide, assaying 17 dwts. of gold per ton. Stope south of winze cut 9 fathoms 3 feet 6 inches. Lode 3 feet wide, assaying 17 dwts. 5 grains of gold per ton. Stope in back of 530 north of north rise cut 11 fathoms 6 inches. Lode 3 feet wide, assaying 18 dwts. 20 grains of gold per ton. Stope south of rise cut 15 fathoms 4 feet 6 inches. Lode 3 feet wide, assaying 14 dwts. 13 grains of gold per ton. Stope in back of 530 north of south rise cut 3 fathoms 5 feet 6 inches. Lode 2 feet wide, assaying 13 dwts. 8 grains of gold per ton. Stope south of rise cut 3 fathoms 4 feet 9 inches. Lode 1½ feet wide, assaying 11 dwts. 15 grains of gold per ton. New stope in bottom of 440 north of north winze cut 4 fathoms 9 inches. Lode 3 feet wide, assaying 1 ounce 15 dwts. 14 grains of gold per ton. Stope south of winze cut 6 fathoms 3 inches. Lode 2½ feet wide, assaying 1 ounce 6 dwts. of gold per ton.—Garland's shaft. Stope in back of 530 south of No. 3 north rise cut 2 fathoms 4 feet. Lode 3 feet wide, assaying 1 ounce 13 dwts. of gold per ton. Stope in back of level north of No. 1 rise cut 1 fathom 1 foot 6 inches. Lode 2½ feet wide, assaying 1 ounce 8 dwts. 10 grains of gold per ton. Stope south of rise cut 6 fathoms 1 foot 3 inches. Lode 2 feet wide, assaying 1 ounce 12 dwts. of gold per ton. New stope in back of 440 north of No. 2 north rise cut 2 fathoms 3 feet 3 inches. Lode 3 feet wide, assaying 1 ounce 2 dwts. 12 grains of gold per ton. Stope in back of 440 south of No. 1 north rise cut 4 feet 6 inches. Lode 4 feet wide, assaying 15 dwts. of gold per ton. New stope in back of 440 north of rise, south of west cross cut, cut 3 fathoms 4 feet. Lode 4 feet wide, assaying 1 ounce 17 dwts. 14 grains of gold per ton, Stope in back of 440 north, north of south rise, cut 1 fathom 4 feet 3 inches. Lode 2 feet wide, assaying 12 dwts. 9 grains, of gold per ton. Stope in back of 530 south, south of rise, cut 3 fathoms 4 feet. Lode 6 feet wide, assaying 1 ounce 8 dwts. 4 grains of gold per ton. Stope in back of 340, south of No. 1 west cross cut, cut 9 fathoms 5 feet. Lode 3½ feet wide, assaying 1 ounce 13 dwts. 14 grains of gold per ton. Stope in back of 240, north of No. 2 north rise, cut 5 fathoms. Lode 3 feet wide, assaying 2 ounces 7 dwts. of gold per ton. Stope south of rise cut 5 feet 9 inches. Lode 1 foot 3 inches wide, assaying 1 ounce 17 dwts. 19 grains of gold per ton. Stope in back of 240, south of No. 1 north rise, cut 3 fathoms 4 feet 4 inches. Lode 2½ feet wide, assaying 2 ounces 9 dwts. 10 grains of gold per ton.—Ribblesdale's shaft. Stope in back of 340 north, on north part of fold, cut 5 fathoms 5 feet 6 inches. Lode 6 feet wide, assaying 1 ounce 14 dwts. 2 grains of gold per ton. Stope in back of 340 north, south of No. 2 rise, cut 5 feet 3 inches. Lode 3 feet wide, assaying 2 ounces 4 dwts. of gold per ton. Stope in bottom of 240 north, north of winze, cut 8 fathoms 5 feet 3 inches. Lode 5 feet wide, assaying 2 ounces 10 dwts. 11 grains of gold per ton. Stope in bottom of 200, south of 240 north, rise cut 15 fathoms 2 feet. Lode 2 feet wide, assaying 1 ounce 6 dwts. 8 grains of gold per ton. Stope above level cut 9 fathoms 3 feet 6 inches. This is worked up to old workings. No. 1 stope, south of No. 1 rise, in back of 240 south, cut 1 fathom 5 feet 9 inches. Lode 2½ feet wide, assaying 1 ounce 13 dwts. of gold per ton. No. 2 stope south of rise cut 3 fathoms 1 foot 3 inches. Lode 4 feet wide, assaying 1 ounce 19 dwts. of gold per ton. No. 2 stope north of No. 2 rise in back of level cut 4 fathoms 5 feet. Lode 3 feet wide, assaying 1 ounce 16 dwts. of gold per ton. No. 1 stope north of rise cut 8 fathoms 3 inches. Lode 5 feet wide, assaying 1 ounce 10 dwts. 13 grains of gold per ton. The above stoping is for July month.—Returns. During July month 3800 tons of quartz were stamped, which produced 5158 ounces of gold, an average yield of 1 ounce 7 dwts. 4 grains of gold per ton. 620 tons of tailings were treated, which yielded 131 ounces of gold, a total return of 5289 ounces.

CROWN REEF.—From the report for July: Profit from 120 stamp mill and cyanide works, £9342 9s. 3d.; profit from accumulated tailings and slimes, £972 7s. 10d.; total profit for month, £10,314 17s. 1d.—Capital expenditure. To mine development, £1599 17s. 1d.; to machinery and plant, £2225 13s. 7d.; to buildings, £77 5s. 8d.; to reservoirs and dams, £193 6s. 7d.; total, £4096 2s. 11d. The tonnage of ore exposed amounts to 12,066 tons. The 120 stamp mill made a good run for the month. The 120 stamp cyanide works have been in full operation during the month, and have treated 11,413 tons of tailings and concentrates at an average cost of 4s. 1·414d. per ton, including royalty. The old cyanide works at the 60 and 30 stamp mills, and at the Molloy works, continue working on the accumulated tailings and slimes.

COROMANDEL.—Superintendent's report for fortnight ending August 11: Coromandel shaft. 420 feet level north. This level has been driven since last report 28 feet, and the lode which has been as much as 6 feet in width has closed up to less than a foot in present end. The assay this week is 12 dwts. of gold per ton.—420 feet level south. The lode in the end is 3 inches wide, and assays 12 dwts. Distance driven 15 feet 8 inches, total from shaft 149 feet 6 inches.—320 feet north driven 18 feet 6 inches, total 464 feet 9 inches. The branch in the end is still very small but carries a little gold, and it is hoped this level will soon get into a more settled lode.—210 feet north. A crosscut east from the former end of this level has been restarted and driven 15 feet. We have passed through several branches of quartz, but have not yet discovered any well defined footwall. We think it possible the main leader of the lode in this level may be found yet farther east.—Prospect shaft. 500 feet crosscut west. This has been advanced a further 14 feet 3 inches, making its total length 63 feet 9 inches; no change. 500 feet level north driven 21 feet, total from shaft 71 feet 6 inches. Lode 4 inches wide, assaying 1 ounce of gold per ton. We expect to communicate this with the No. 2 winze in a day or two. No. 2 winze under 440 feet. This has been sunk to the 500 feet level and drift started north and south. Sinking for fortnight 3 feet driving 18 feet. Lode in south end 1 foot wide, assaying 14 dwts. per ton. 440 feet crosscut east driven 21 feet 8 inches, total 228 feet; no change in the ground.—Trial shaft on No. 3 lode. This has been timbered to surface and sinking resumed sunk 5 feet, total depth 38 feet. Lode in bottom 3 feet 6 inches wide, carrying 1 foot 6 inches of 4 dwts. quartz.

EMPRESS OF COOLGARDIE.—The directors have received the following letter:—At your request, I now furnish you with a supplementary report on your property at Coolgardie, Western Australia. On re-examination of the mine on July 3 last I was very pleased to find the favourable opinion expressed in my report of October 24, 1893, was fully borne out—indeed, I may say the prospects now in view have exceeded my expectations. During the past eight months a new shaft has been sunk on the main lode to a depth of 60 feet. The lode is still going down in the bottom, a solid body over 6 feet wide, showing both coarse and fine gold in paying quantities. This development greatly enhances the value of the property. I am also very glad to say the water difficulty for milling purposes has been solved; all shafts on the field sunk to a depth of 100 feet have tapped water, and at 150 feet a good supply is obtained. In the mine adjoining yours—viz., Tindall's—a large supply has been secured at a depth of 120 feet. I am confident you will obtain an ample supply near your large lode at about 150 feet. Again expressing confidence in the success of your venture—(Signed) W. J Begelhole.

FORBES REEF.—The mine manager reports progress for the month of July, under letter dated August 2, as follows:—No. 1 mill. Tons milled 1875, stamps working 20, number of days mill ran 24 days 9 hours, smelted gold won 46 ounces.—Avalanche Mill. Tons milled 2341, stamps working 20, number of days mill ran 24 days 10 hours, smelted gold won 232 ounces 2 grains. A 10 feet sump has been sunk and timbered, and a pump erected to supply water for plates.—Main shaft development. North drift 22 feet, south drift 24 feet, total 46 feet.

GOLD FIELDS OF MYSORE.—Mine report for fortnight ending August 13:—Oriental lode, south shaft. The 470 feet level north of shaft has been driven 4 feet 3 inches, total length 111 feet 3 inches. Lode 2½ feet wide, assaying 18 dwts. 5 grains of gold per ton. 470 feet level south driven 5 feet, total length 122 feet 9 inches. Lode 3 feet wide, assaying 16 dwts. 3 grains of gold per ton. The 380 feet level north has been driven 4 feet, total length 215 feet 4 inches. Lode is at present disordered, carrying a leader of quartz 3 inches wide, assaying 4 dwts. 17 grains of gold per ton. The 380 south driven 4 feet 6 inches, total length 208 feet 9 inches. Lode 1½ feet wide, assaying 17 dwts. of gold per ton. The 280 crosscut east of shaft has been driven 4 feet, total length 256 feet 9 inches. The strata is without change.—Prospecting work. I am sending a report on this by the mail.

GOLD FIELDS OF MYSORE.—Report on prospecting operations dated August 14: West Balaghat block, No. 1 shaft. North drive at the bottom of this shaft 117 feet from surface has been driven 8 feet 10 inches, total distance from shaft 78 feet 4 inches. Lode 1 foot 6 inches wide, assaying 11 dwts. of gold per ton. South drive has been driven 3 feet 5 inches, total distance from shaft 83 feet. Lode 2 feet 6 inches wide, assaying 5 dwts. of gold per ton.—No. 2 shaft. This has been sunk 3 feet 9 inches, total depth from surface 147 feet 9 inches. Lode 1 foot 9 inches wide, assaying 7 dwts. of gold per ton. North drive 100 from surface has been driven 3 feet, total distance from shaft 76 feet 6 inches. Lode 2 feet 6 inches wide, assaying 8 dwts. 12 grains of gold per ton. South drive has been driven 3 feet, total distance from shaft 91 feet 3 inches. Lode 1 foot wide, assaying 11 dwts. of gold per ton.—No. 3 shaft. The erection of engine and poppet heads has been completed at this shaft. We are now engaged in taking out the water, cutting down the shaft, and timbering it.—No. 4 shaft. This has been sunk 2 feet 9 inches, total depth 141 feet 2 inches. Lode 1 foot 6 inches wide, assaying 2 dwts. 9 grains of gold per ton.—Road block, shaft No. 3, north No. 2, eastern lode, north drive 53 feet from surface. Not having met with anything in this drive, we have crosscut west 7 feet; here we met with a small stringer of quartz and one following it. South drive has been driven 11 feet, total distance from shaft 52 feet. Lode 2 feet wide, assaying 6 dwts. of gold per ton.—North shaft. 62 feet from surface we met with water. We stopped the sinking, and have started to drive both north and south at the bottom of it. North drive has been driven 4 feet 6 inches from shaft. Lode 1 foot wide, assaying 5 dwts. of gold per ton. South drive has been driven 5 feet 6 inches from shaft. Lode 1 foot 6 inches wide, assaying 2 dwts. 5 grains of gold per ton.

GOLDEN FEATHER CHANNEL.—The following has been received by letter, dated August 15: We are still sluicing out the debris filling the sluiceway between the new and old foot dams, and clearing out the old sluice for a clean up. We sluiced out of the claim and deposited below the footdam some 3000 tons of debris, thereby accomplishing in four days with the elevators what would have taken weeks of labour by derrick, pick, shovel, and wheelbarrow. We are now near the base of the new foot dam, and will, in all probability, commence cleaning out the new elevator pit by the end of next week. When the elevator is set up we will have a long stretch of virgin ground before us, ground which is believed to be the very cream of the claim. Should it be such as was encountered on the old Cape and Union Cape by our predecessors, the returns will amply compensate for past disappointments and delays. In conclusion, I am pleased to report that the work carried out this year is far in excess of that accomplished during any previous season, and that our prospects are, therefore, most assuring. All works and property are in perfect order.

KEMPINKOTE.—Superintendent's report for fortnight ending August 13: Garland's shaft has been sunk 6 feet 6 inches, making a total depth of 219 feet 6 inches. The ground has become very much harder, and the rock in the south end is looking a little more promising. 183 feet drive south has been advanced 22 feet, making a total length of 108 feet. The first few feet driving brought us in contact with country rock. At this point a crosscut west No. 2 was started which has been advanced 9 feet 6 inches, making a total length of 9 feet 6 inches. This having proved the position of the lode driving south was resumed, and after traversing a few feet of country rock the lode was met with assaying 5 dwts. of gold to the ton on cutting it. The end now carries lode for the full width, assaying 10 dwts. to the ton. 183 crosscut east has been advanced 8 feet, making a total length of 124 feet. In the last few feet we passed from the lode into country rock, driving was then stopped, The width of the lode driven through is about 13 feet. 183 feet drive north was started by machine at about 83 feet distance from the shaft, it has been advanced 16 feet, making a total length of 16 feet. The end carries lode for the full width, assaying 12 dwts. of gold to the ton.—Henty's shaft. Sinking was resumed by hand labour on August 1, and has been sunk 5 feet 3 inches, making a total depth of 208 feet. The ground still continues to be very hard. 173 feet drive south has been advanced 20 feet, making a total length of 124 feet. The ground is not quite so heavy but extremely wet, otherwise there is no further change to report.

MOUNT LYELL.—The London Committee have received the following report from the mine for week ending July 19:—100 feet level. The south drive has been advanced 5 feet, total 50 feet. Country ironstone and schist, tight for blasting.—Intermediate. The north level has been driven 8 feet, total 40 feet. The men are now engaged putting in timber for ore and mullock shoots.—50 feet level. The south drive has been advanced 3 feet, total 151 feet. The work has been very hard.—No. 1 winze. The winze has been sunk 3 feet, total 31 feet. Country ironstone schist and quartz.—Stopes. Stoping operations have been confined to the upper floor. Rich ore is showing in all the faces.—No. 4 level rise over old winze. A rise has been started over the old winze on two small veins of oxidised ore which together will average about 8 inches in width of high grade ore.—No. 5 tunnel. This tunnel has been driven 10 feet 6 inches, total 712 feet. The country is conglomerate.—Ore raised. 130 bags weighing 6 tons 10 cwts. containing 10,062 ounces silver, and 1 ton 15 cwts. 11 lbs. copper, averaging 1548 ounces silver, and 27 per cent. copper per ton.—Ore despatched. 404 bags weighing 20 tons 17 cwts. 3 qrs. 18 lbs., containing 4 tons 18 cwts. 3 lbs. copper, and 13,829 ounces silver.

NEW QUEEN.—The following fortnightly report has been received from the mine, dated Charters Towers, July 20: I beg to submit to you my report on work done in your mine during the past fortnight.—No. 4 South Level. Stoping has been continued over this level, the formation varying from 3 to 10 feet. The reef is small and irregular, from 3 to 9 inches, with portions of blank ground. No. 5 South Level has been extended a further distance of 8 feet, making it 315 feet from underlie shaft. The reef in the end of level is about 1 foot in thickness of a rather white nature. Stoping has also been carried on, the reef varying from 3 inches to 1 foot. No. 5 North Level has been extended a further distance of 12 feet, making a total distance of 229 feet from the underlie shaft. The ground continues hard, about 2 tons of stone being obtained during the fortnight. No. 6 North Level has been opened out; from the underlie shaft a distance of 21 feet has been cut. The ground is very hard. A thin vein of quartz, about 2 inches, extends across the face, which I hope will improve in size during the fortnight.—No. 4 Formation. No. 1 North Level. Stoping has been carried on over this level, the formation varying from 4 to 10 feet in width. The reef is very irregular, varying from 3 to 9 inches in thickness. A large quantity of mullock has been removed for the amount of stone obtained. No. 1 South Level has been extended a further distance of 12 feet, making 129 feet from end of cross cut with about 10 inches of stone in the face of level. The leading stope has been formed and stull timber put in to form the level.—Underlie Shaft. A well hole, 9 feet by 6 feet by 3 feet in height, has been sunk in the north level so as to prevent the water from running into the Underlie shaft. A start will be made to sink the Underlie shaft on Monday, and will be pushed ahead as speedily as possible.—Quantity of quartz raised during the fortnight: No. 1a Level 31 trucks, No. 4 South Level 184 trucks, No. 5 South Level 172 trucks, No. 4 Formation 167 trucks—Total 554 trucks.—(Signed) W. Henderson.

NEW VIRGINIA TRANSVAAL GOLD MINES.—The manager (Captain A. P. D. Hodge) writes under date, Steynsdorp, August 6: You will be pleased to hear that on Thursday last we struck another rich point in the Heather Bell, almost in a line north with Spicer's shaft, and distant about 300 feet from said shaft. I am unable yet to say for certain, but I feel pretty sure that it is the same reef as Spicer's shaft is sunk on. The pannings are very good, and on a par with those obtained from Spicer's shaft—fully 1 ounce per ton.

NEW KLEINFONTEIN.—From summary of operations for July: Profit for month, £1921 13s. 8d.—Capital Account: Expended on permanent mine, £670 7s. 11d., machinery and plant £979 11s. 5d., live stock, &c., £40, furniture £40, total £1729 19s. 4d. Number of feet driven and sunk during month 263 feet. There are about 1400 tons of ore broken in stopes. The costs include £707 15s., being one-sixth of £4246 10s. (third instalment) spent in development during the alteration to mill, which amount is being written off during the first six month's work; therefore, profit on month's work is actually £2629 8s. 8d. During the month 5000 tons of ore were developed, against 2800 tons in June, native labour being very scarce during that month. This accounts for the increase in cost of mining. The tailings treated during the month were very acid, and about 120 ounces of gold could not be returned during month, owing to the necessity of further treatment.

OTTO'S KOPJE DIAMOND.—Extract from general manager's letter, dated Kimberley, August 13: Machinery. The whole of both "Arab" and "Anglian" consignments is now delivered at the mine, and the work of erecting the plant going on very well. Two elevators are up, and the third nearly ready. A good deal of the foundation is completed, including the concrete pillars for both the engines. These will be ready to-morrow morning for the bed plates going on, and the 25 feet wall for the screens is already half up. The boilers' foundations are also well forward, and I expect to commence with the setting of the boilers before the end of the present week.

OOREGUM.—Superintendent's report for fortnight ending August 13: Taylor's shaft sunk 6 feet, depth below 560 feet level 39 feet 6 inches. Lode 3 feet 6 inches wide, assay value 1 ounce 3 dwts. 22 grains. The 560 feet level south driven 22 feet 6 inches, total 70 feet. Lode 1 foot 6 inches wide, value 2 ounces 6 grains. The 460 feet level south driven 20 feet 3 inches, total 467 feet 3 inches. Lode 3 feet 3 inches wide, value 1 ounce 1 dwt. 19 grains. No. 1 winze, 460 feet level south, sunk 6 feet, total 61 feet 3 inches. Lode 1 foot, value 2 ounces 1 dwt. 9 grains. No. 2 winze, 460 feet level south sunk 9 feet, total 49 feet. Lode 1 foot 3 inches wide, value 1 ounce 12 dwts. 16 grains. No. 3 winze, 460 feet level south, sunk 6 feet 3 inches, total 16 feet 3 inches. Lode 4 feet carried, value 10 dwts. 20 grains. No. 4 winze, 360 feet level south, sunk 3 feet 6 inches, total 11 feet 3 inches. Lode 3 feet wide, value 1 ounce 2 dwts. 21 grains. Level south from back of No. 4 rise, 280 feet level south driven 10 feet 9 inches, total 80 feet 9 inches. Lode 1 foot wide value, 3 ounces 5 dwts. 8 grains. This level being within a few feet of southern boundary it has been suspended. Level north from back of No. 4 rise, 280 feet level south, commenced and driven 5 feet, Lode 9 inches, value 2 ounces 5 dwts. 17 grains. Wallroth's shaft sunk 9 feet, total 880 feet 6 inches. Lode 1 foot 6 inches, value 7 dwts. 15 grains. The 760 feet level south driven 10 feet, total 225 feet 6 inches. Lode 1 foot 2 inches, value 6 dwts. 12 grains. No. 1 winze, 760 feet level south sunk 4 feet 3 inches, total 33 feet. Lode 2 feet wide, value 9 dwts. 19 grains. The 760 feet level north driven 7 feet, total 111 feet 9 inches. Lode 2 feet wide, value 4 dwts. 8 grains. No. 1 winze, 760 feet level north, sunk 1 foot 9 inches, total 27 feet. Lode very small, no sample. The 660 feet level south driven 22 feet, total 637 feet. Lode 3 feet 3 inches wide, value 2 ounces 3 dwts. 13 grains. No. 3 winze 660 feet level south sunk 2 feet 9 inches, total 47 feet 9 inches. Lode 1 foot wide, value 10 dwts. 20 grains. No. 4 winze 660 feet level south, sunk 1 foot 9 inches, total 29 feet 9 inches. Lode 6 inches wide, value 8 dwts. 17 grains. No. 3 rise 660 feet level south risen 2 feet, total

41 feet. Lode 1 foot 6 inches, value 12 dwts., communicated with No. 3 winze from 560 feet level. No. 4 rise 660 feet level south commenced risen 6 feet. Lode 1 foot 6 inches, value 9 dwts. 19 grains. No. 5 winze 560 feet level south sunk 4 feet 3 inches, total 89 feet. Lode 1 foot 6 inches, value 1 ounce 17 grains, communicated with 660 level. No. 6 winze 560 feet level south sunk 2 feet 6 inches, total 88 feet 6 inches. Lode 2 feet 6 inches, value 1 ounce 3 dwts. 22 grains. The 560 feet level north driven 12 feet 6 inches, total 232 feet 6 inches. Lode 9 inches wide, value 15 dwts. 6 grains. No. 7 winze 460 feet level south sunk 1 foot 3 inches, total 98 feet 9 inches. Lode 2 feet 6 inches wide, value 1 ounce 1 dwt. 19 grains. The 360 feet level north driven 7 feet 3 inches, total 264 feet 3 inches. Lode 3 inches wide, value 1 ounce 2 dwts. 21 grains. Incline winze on point of fold in bottom of 280 feet level north, sunk 19 feet 6 inches, total 92 feet 6 inches. Lode 1 foot 6 inches, value 6 dwts. 12 grains. The 215 feet level north driven 18 feet 3 inches, total 490 feet 3 inches. Lode 6 inches wide, value 8 dwts. 17 grains. No. 4 winze 215 feet level north sunk 3 feet 9 inches, total 8 feet 9 inches. Lode 1 foot wide, value 7 dwts. 15 grains. The 215 feet level south on fold driven 3 feet 9 inches, total 6 feet 3 inches. Lode 1 foot 9 inches wide, value 2 ounces 5 dwts. 17 grains.—Low's shaft. The 610 feet level south commenced and driven 10 feet 6 inches; it will be driven a few feet further, then we shall crosscut to the lode. The 510 feet level south driven 12 feet 6 inches, total 174 feet 3 inches, lode 3 feet wide, value 2 ounces 4 dwts. 15 grains, No. 1 rise, 510 feet level south commenced, risen 6 feet 6 inches, lode 5 feet wide, value 1 ounce 8 dwts. 7 grains No. 3 winze, 430 feet level south sunk 9 feet 6 inches, total 23 feet 6 inches; lode 1 foot wide, value 2 ounces 6 dwts. 19 grains, Probyn's shaft sunk 7 feet, total 1014 feet. The 950 feet level south driven 12 feet 6 inches, total 182 feet, lode pinched. No. 1 winze, 950 feet level north, sunk 3 feet, total 48 feet, lode 6 inches wide, value 9 dwts. 19 grains. The 850 feet level south driven 11 feet 6 inches, total 307 feet 6 inches, lode pinched.—No. 1 winze, 850 feet level south, sunk 6 feet 6 inches, total 74 feet, lode 6 inches wide, value 7 dwts. 15 grains. No 2 trial shaft, 250 feet level south driven 9 feet 6 inches, total 45 feet 6 inches, lode 2 feet 6 inches wide, value 1 ounce 1 dwt. 20 grains. 250 feet level north driven 8 feet, total 49 feet, lode 3 feet wide, value 7 dwts. 15 grains. —Wallroth's shaft: The cross cut west from 280 feet level south, towards Munday's lode, driven 16 feet 6 inches, total 472 feet 6 inches, strata unchanged. During July 3847 tons of quartz were crushed, which produced 4150 ounces of gold. 4868 tons of tailings were treated which yielded 987 ounces of gold, total return 5137 ounces of gold.

POORMAN CONSOLIDATED.—The following report has been received from the mines, under date August 12: I wired you on August 6 as follows:—Poorman. The face is looking better. Vein is fully 1 foot wide. Ore improving in quality as developed. Oso in Belle Peck north looking first rate.—Poorman Tunnel No. 3. Main drift has been extended to a total length of 2014 feet. The ore body in the face averages to-day 2 feet in width, and is very fine; the entire 2 feet will assay an average of $40 per ton in gold, and one solid streak of quartz of about 4 inches wide will assay $100 per ton in gold. The face continues damp, and the walls are in perfect form.—Belle Peck Tunnel No. 2. The Belle Peck tunnel is now in a total distance of 1618 feet. The face still shows broken porphyry and quartz, with only slight indications of ledge. We have at this time no true wall on either side. The quartz contains a large percentage of iron pyrites, but does not contain enough gold or silver to warrant us in saving it yet. The drift north on Oso vein is now in 98 feet from line of crosscut. It does not look as encouraging as it did when last reported, the quartz having narrowed up to 6 inches, but still of no value. The drift south is now in a distance of 68 feet from crosscut. The character of ledge is same as last reported. The gangue is soft, with small seams of quartz. Considerable water begins to show in this drift, which is usually a very good indication. We have accepted on our timber contract 9671 feet of mining timber and 16,703 feet of lagging, and have advised the contractors that for the present we require no more. This was all delivered during July. This quantity I consider sufficient for one year, provided we do nothing but development work this winter. Under date of August 20 I telegraphed as follows:—"Main drift Poorman No. 3 has again ran into old workings. No change in Poorman."

PUNJOM.—The following is the manager's report for June: August shaft. Bottom drive north; better progress has been made with the driving of this level, the ground being more favourable as we near the lodes. We have passed through several small veins of quartz, and in the face of the drive at present are small leaders, which show by panning free gold. I expect to cut the east and west lodes in about 40 or 50 feet of drivage. Driven during the month 42 feet. Total drivage from shaft 114 feet. East drive was commenced early part of the month, but at times the work could not be carried on continuously without delaying work in the main drive. Distance driven 14 feet 6 inches.—12 inch pump. The heavy parts have been put in place, and I hope to have it working early part of next month. Surface shaft No. 3 has been sunk 14 feet in hard quartz, making total depth 60 feet.—Trial shafts, levels Nos. 2 and 3. Stoping over these has been commenced. The lode varies in size, and appears to be going small as we stope up. The ventilation (although the two shafts are communicated), owing to the excessive hot weather, is at times so foul that the men cannot work. Sent to mill from these points 130 tons of quartz.—No. 3 trial shaft south. We are driving south from this point towards the shaft on the spur of the lode and near the old workings. The lode in the bottom of the drive is 3 feet 6 inches, and pinches out to almost nothing in the back of the drive. The lode is twisting about a good deal, as after driving 14 feet south from the shaft we came into what appeared to be a cross lode, but on driving we found that it was heaving around to its true bearing.—South drive. We have not done much at this point, as owing to the fixing of the 12 inch pump we had, at times, to dam the water back into the 110 feet level. Distance driven 10 feet. Large stopes top and bottom sections are all in good order, and producing average stone. Output for the month about 942 tons. Milling was carried on for 25 days, crushing 1100 tons for 524 ounces 9 dwts. of smelted gold. The six Berdan pans treated 18 tons of concentrates, and blanket washings for 30 ounces of smelted gold. This 30 ounces is included in our milling returns.—Surface drive. We have commenced to put out a drive from the surface of the mine to the large heaps of sluice heading, referred to in my April report. This drive will go through a large heap of debris at first, and eventually come into the crushing dirt. This will enable us to get large samples or take the whole heap away. Disturbance in the Tanbeling district and on the river have prevented funds, food, and mining supplies from reaching us, of which we are very much in want. The river is now, however, officially reported by the Acting British Resident to be again safe to traffic, but I am afraid that after the experience some of the boatmen had at the hand of the outlaws, it will be sometime before confidence will be again restored. Rainfall during the month total up 12¼ inches.—General. Everything about the property is in good condition. The health of camp, however, is not so good this month as usual. The morning have been cold and foggy, and the days exceedingly hot.

ROBINSON GOLD.—The following is the general manager's summary of operations of the company for July, together with statement of expenditure and revenue: Mine. Quartz mined, 8657 tons.—Permanent works. Main incline shaft west sunk 16 feet.—Development. Drives, 755 feet; raises, 175 feet; crosscuts, 219 feet; total, 1165 feet.—Main incline shaft west. Sinking below the 8th level, 16 feet.—4th level. Driving west on south reef, 21 feet.—5th level. Driving east and west on south reef, 64 feet; crosscuts, 36 feet; raises, 38 feet.—6th level. Driving west on main reef, 45 feet; driving east and west on south reef, 102 feet; raises 65 feet; crosscuts, 12 feet.—7th level. Driving east and west on main reef, 89 feet; crosscut, 40 feet.—8th level. Driving east and west on main reef, 76 feet; crosscut, 23 feet.—Main Incline shaft east—Fifth level. Driving east on main reef, 9 feet; driving east on south reef, 23 feet; crosscuts, 45 feet.—6th level. Driving east and west on main reef, 82 feet; driving east and west on south reef, 85 feet; raises, 38 feet; cross cut, 8 feet. — 7th level. Driving east and west on main reef, 51 feet; driving east and west on south reef, 77 feet; raises, 34 feet; cross cuts, 34 feet. — 8th level. Driving east and west on main reef, 31 feet; cross cuts, 21 feet, total, 1165 feet. Average width and assay value of south reef developed during month:—Width, 10 inches; assay value, 3 ounces 12 dwts.—Mill. Stamps at work, 70; net running time, 28½ days; tons crushed, 8657; tons per stamp per diem, 4·3; gold won from above, 8555 ounces 2 dwts.—Chlorination and cyanide works. Gold won from own concentrates (by chlorination), 1102 ounces; bullion from tailings (cyanide process), 1473 ounces 9 dwts.; from own ore, 11,130 ounces 11 dwts.; gold from concentrates purchased (by chlorination), 2798 ounces 19 dwts.; total, 13,929 ounces 10 dwts.

BRITISH BROKEN HILL PROPRIETARY.—Mining manager's report for week ending July 25: Blackwood (No. 1) shaft, 200 feet level. We are still following patches of ore in uprise over north drive off east crosscut, but they are pinching again.—400 feet level. North drive off west crosscut driven 6 feet, total length 40 feet. South drive off west crosscut extended 10 feet, total length 64 feet; face of north drive in very hard rock of no value; face of south drive is somewhat mixed up with sulphides and mullock.—Howell (No. 2) shaft. Has been sunk 8 feet during week, making its total depth 107 feet below 200 feet level and 7 feet below 300 feet level. Will be cutting out a plat here as soon as shaft is timbered 200 feet level. East crosscut on 10th floor far north stopes extended 14 feet, total length 60 feet, face still in mullock.—Retallick shaft, 115 feet level. Winze in end of No. 3 west crosscut sunk 5 feet, total depth 83 feet; sulphide showing in bottom. Are expecting to hole in south-west drive from Marsh (No, 6) shaft daily.—Marsh (No. 6) shaft, second level. Have started to excavate a chamber in north drive off No. 3 east crosscut at point 20 feet north of crosscut, where we will sink a winze to prove depth of ore at this point. The south-west drive near junction boundary is driven 3 feet, total length 90 feet, this is stopped for the present as we are beyond point of connection with winze from Retallick shaft. Have come back and started at No. 4 east crosscut in this drive at a point 25 feet in from main south drive on a patch of ore exposed on side of drive and have extended same crosscut 7 feet.—No. 2 west crosscut, north, stope. In upraise we are following footwall southwards.—South. Are following vein overlying sulphides in a southerly direction.—No. 3 west crosscut, north. Have been cutting down portion of wall in order to get at ore lying behind wall.—South. Also raising up here and following vein.—Stopes; No. 2 west crosscut north stope. We have been most of the time in iron stained mullock, and have only broken a ton of second class ore, assaying 12 per cent. lead and 32 ounces silver per ton.—No. 2 west crosscut south stope. We have broken 5 tons first class ore averaging face sample 27 per cent. lead and 75 ounces silver per ton, ½ ton of seconds assaying 18 per cent. and 33 ounces silver per ton, and ½ ton of thirds assaying 11 per cent. lead and 19 ounces silver per ton.—No. 3 west crosscut north stope. We have finished cutting down the mullock and are now following the vein, which is 3 feet wide. We obtained from here during the week 9 tons first class ore, averaging (face sample) 34 per cent. lead and 106 ounces silver per ton.—No. 3 west cross south stope. Have been cutting down the mullock intrusion, but are now following the lode southwards. Have broken for the week 5 tons seconds assaying 18 per cent. lead and 33 ounces silver. per ton. Assays for the week vary from 8 to 25 per cent. lead and 10 to 200 ounces silver per ton.

BRILLIANT BLOCK.—Mine manager's report for fortnight ending July 11; Underlie shaft sunk 9 feet, total depth below No. 5 plat 121 feet. The reef in the sink is 4 feet thick, of medium quality. Have laid down No, 6 plat and started to open out No. 6 east and west levels. No. 5 level west extended 20 feet, total from shaft 234 feet. A few inches of white stone are showing in the face. In the stope over this level near the shaft reef is 1 foot thick, of good quality. No. 5 level east extended 13 feet, total from shaft 270 feet. The reef in face is 4 feet thick, of medium quality. In the four stopes over this level reef varies from a few inches to 6 feet thick, of fair looking stone.—No. 4 level west. In the two stopes over this level there is 2 feet of stone, of low quality.—No. 4 level east. In stopes over the hanging and footwall drives the reef averages 2 feet thick, of fair quality.—No. 3 level east. Have sunk No. 2 winze a further 15 feet, and holed into footwall stopes over No. 4 level, total depth 56 feet. Stone raised, 800 tons. Stone crushed, 897 tons for 873 ounces 7 dwts. 12 grains gold.

DON PEDRO.—Lengthy reports have been received from Captain Jeffery to July 31, and from Mr. Touzeau to August 11, the pith of which is as follows: They found on their arrival on July 18 the upper part of the shaft down to the 40 fathom level in a bad state of repair from neglect and deficient ventilation. Steps were immediately taken to remedy this, and Mr. Touzeau writes: "Very substantial progress has been made in repairing shaft, so much so that we hope to get through the worst piece by the 18 inst. (August), and be able to work both tramroads from that date whilst still continuing the renewal of the falling timbers. By the above date we hope to recommence gold raising." He adds that absolute measurements are of course impossible where the boundaries of the lodes have not been reached, but he believes that Captain Jeffery's estimate of being able to raise £400 to £500 per month without interfering with the important work of development as well within bounds. The programme of work arranged with the board is to be carefully adhered to and the shaft will be divided from a point 24 feet below the 60 fathom crosscut as determined on. The new adit was progressing satisfactorily in more favourable ground than was anticipated, but this had become more compact and of a harder nature. Buildings in fair order.—Morro de Santa Anna mine. Both report most favourably on the prospect of this mine so far as had been ascertained A small force is employed clearing the adit, and some of the old miners appear to have given valuable information as to the richness of the ground. The upper part of the lode appears to have been soft, and easily worked by the natives, and Mr. Touzeau has examined about 800 feet of ground, which has been gutted, and not fairly worked away. He will make careful assays, and bring back samples with him, and be able to report more fully later on. An important point ascertained is that water power sufficient for 15 head of stamps can be laid on at a cost of about £500, and if necessary, 60 horse power can be obtained without going beyond the company's rights. An adit can be driven about 40 fathoms to cut the lode below the level of Bawden's workings.

GELDENHUIS ESTATE.—Operations for July: Quartz mined 9185 tons of 2000 lbs.; quartz milled (80 heads) 9270 tons; yielding smelted gold 3548·22 ounces, valued at £12,595 8s.; concentrates sold, say 210 ounces, valued at £451 10s.; cost, £8542 18s. 2d.—Per ton. Milling and hauling, 15s.; transport, 7¾d.; milling, 5s. ½d.; charges, 11½d. Expenditure on mine development, 4s. 5½d.; total, 28s. 0¾d. Profit for the month, £2157 16s. 9d.—Capital account. Expended on machinery, new shafts, &c., £10,859. Number of feet driven and sunk during month, 933½ feet. The cyanide plant commenced work on August 1, and the first returns from this source will be made for that month.

MOUNT ZEEHAN (Tas.).—Manager reports for week ended 24th July: Argent Section, main engine shaft, No. 6 lode, intermediate level south. Stoping continued, but ore kept below. Lode 9 inches wide of good milling ore, but stope is now nearly exhausted. 72 feet level south, extended 9 feet 6 inches, total 221 feet, raised 31 tons fair seconds. When last reporting, lode was very encouraging, but is now split up, leaving only few inches of ore on each wall. Stope raised 42 tons low quality seconds. Have started new stope south, where lode is 2 feet 6 inches wide, but quality only moderate. 132 feet level south, rise and stope, raised 53 tons low quality seconds. Lode 2 feet to 3 feet, 6 inches wide, but poor. 132 feet level north, stope raised 29 tons low quality seconds, lode 1 foot 8 inches wide.—Cross cut west to No. 7 lode extended 8 feet 6 inches, total 109 feet. Have cut a branch of carbonate of iron 4 feet wide, showing a change of country and letting out water freely.—192 feet level: Have risen on No. 4 lode 4 feet, total 24 feet 6 inches, lode 6 feet wide, about 1 foot 6 inches of which carries low grade ore. Raised 7 tons. Cross cut in search of No. 6 lode extended 7 feet 6 inches, total 25 feet; no change. Concentrator ran 46 hours, and milled 151 tons seconds for 22 tons 9 cwts. concentrates, containing about 16 tons 16 cwts. lead and 1524 oz. of silver.

MILLS' DAY DAWN UNITED.—Mine manager's report for fortnight ending July 13:—Underlie shaft sunk and timbered 9 feet, total from No. 8 plat 99 feet. Shall sink another 30 feet before opening out No. 9 levels. No. 8 level west extended 18 feet, total from plat 218 feet. Have passed through a 5 inch leader of medium quality stone. The drive is now in granite, but we expect to get reef in a few more feet.—No. 7 level west. No. 2 winze has been sunk 20 feet, carrying about 1 foot of mundic stone.—No. 3 winze. We have recommenced sinking this winze. There is a good reef in bottom which is down 32 feet. The stopes over this level will average 9 feet of good stone. The stopes over the hanging wall level will carry from 1 to 5 feet of heavy mineral stone. No. 6 east stopes average 2 feet of stone of poor quality.—No. 6 level west hanging wall. We are stoping over this level on 3 feet of fair stone.—No. 6 level west footwall. Have sunk winze under this level 19 feet on 18 inches of good stone. Total depth 57 feet. Intermediate level extended 20 feet. The stopes over this level and through footwall average 26 inches of medium quality stone. Intermediate level east extended 20 feet, total 70 feet, and is now on the main reef, showing about 4 feet of medium quality stone. Footwall reef carries 1 foot 6 inches of good stone. No. 5 east stopes carry 5 feet of medium quality stone. No. 5 west winze sunk 11 feet, total depth 64 feet, showing 2 feet good stone. Stopes average 2 feet 6 inches, heavily mineralised.—No. 3 level east. Stopes on the footwall reef will average 1 foot of good quality stone. Above this level the reef averages 15 inches of good stone. Stone raised 2000 tons.

SUTHERLAND REEF.—The manager writes, August 9; During the past week east and west drives have been advanced to 88 feet and 111 feet respectively. The reef in east drive continues about the same as last week. In the west drive it is not quite so good, owing to its being somewhit split up here. I think it will improve when we drive a little further.—Main Incline shaft. The timbering has been completed to the 150 feet level. I have to-day started to timber up from the 200 feet to the 150 feet. As soon as this is completed, and the skip brought to this level, I shall continue sinking, and shall also drive east and west at this level. You will see by this there will be no difficulty in keeping a 20 stamp battery supplied when erected.

SPITZKOP FARM.—Extract from manager's letter, dated July 30:—New reef. The reef continues to look well, and is undoubtedly a permanent ore body. Work is steadily being continued on it, and trenching at different points is in hand to discover its continuation. Its outcrop, as proved at various points, is known for ¾ mile. I enclose assay certificate of two samples submitted for the purpose:—Spitzkop No. 1, assay for fine gold, 2 ounces 15 dwts. per 2240 lbs. Spitzkop No. 2, assay for fine gold, 1 ounce 12 dwts. 12 grains per 2240 lbs. The highest assay is from the soft, friable portion of the reef, and the second from the hard quartz. In comparison with the pan prospects they are most decidedly favourable, and a great deal more than I expected. A sample of pyritic ore will be submitted for assay at an early opportunity. I have to congratulate your company on this late discovery, which, up to the present, promises so well for the future.—Extract from manager's letter, dated August 7:—Hydraulic. The tailings and blanketings are now in course of treatment; the yield from these will add to the hydraulic yield. At present I cannot form any estimate with any degree of certainty, but I may risk saving about 60 ounces.—New Reef. I am pleased to tell you this reef in No. 1 drive is looking very well indeed, is about the same thickness as reported last week, but the pan prospects are greatly improved, being quite equal to 15 dwts. milling. The assay of same will be over 2 ounces. Work is pushed on with all the speed possible.—Removal of mill. I cannot enter fully into this matter in this letter, until surveys and levels and water facilities have been duly considered; but if this reef turns out as it now promises to do, the mill will require to be removed. The facilities for water and tramways are good, and a cyanide plant will be an absolute necessity. I shall furnish your board with a full report at as early a date as possible with estimate of probable cost. One great advantage to be derived by the removal of the mill will be that the water now being used by the mill will be altogether available for sluicing. Telegram dated September 3:—"Five drives working, 320 feet driven. Vein has all the appearance of being permanent; working day and night; developments promise well."

TRANSVAAL GOLD EXPLORATION AND LAND.—General summary of operations for July: Theta. Drivage 340 feet, deposit averaged 29 inches thick, ore extracted 666 tons, of which 267 tons were from the opencast.—Beta. Drivage 139 feet, ore averaged 7½ inches thick, extracted 217 tons, assaying 1 ounce 16 dwts. per ton.—Iota. Drivage 220 feet, ore extracted 278 tons, assay value 15 dwts. per ton, deposit averaged 54 inches thick.—Nu. Drivage 212 feet on ore averaging 34 inches thick, ore extracted 101 tons, average assay value 2 ounces 10 dwts. per ton.—Shaft No. 3 (between Theta and Nu). Drivage was continued from the bottom of this shaft. The ore body varied both in value and thickness.—Chi. Drivage 678 feet, average thickness of deposit 19 inches, ore extracted 181 tons, average assay value 1 ounce 1 dwt. per ton. From sundry prospecting works 127 tons were obtained, with an average assay value of 1 ounce 3 dwts. per ton. Total ore extracted at all places 1570 tons, average assay value 1 ounce 14 dwts. per ton.—Produce. Battery crushed 615 tons, yielding 252 ounces 9 dwts.; from old plates 153 ounces 11 dwts. were obtained. Pans treated 267 tons, yielding 801 ounces 17 dwts. Cyanide process treated 725 tons, yielding 861 ounces 7 dwts. Total production 2069 ounces 4 dwts.

MINING INDUSTRIES OF NORTH PORTUGAL.—There are good lodes of antimony running from north-west to south-east, about 8 miles from Oporto; the principal mines are Montalto, Godomar, Tapada, and Vallongo. Consul Hay Newton says that these have been worked for some years with more or less success, large dividends having been paid on some of them, but as a rule they have been mismanaged. The antimony is found in the quartz reefs which intersect the silurian schists, but in the same quartz veins gold appears, sometimes in considerable quantities, but whether in paying proportion is still a problem to be solved by mining engineers. During the last eight or ten years attention has been attracted to the extraction of gold. Quartz, principally from the mines referred to above, has been sent to Germany, and also, it is stated, to England, and the percentage of gold extracted appears to be favourable, but the expense of shipping the quartz for extraction was so great that attention was turned to effecting that process on the spot. Great secrecy has been maintained with regard to results, therefore no opinion can be formed as to whether the undertakings have been profitable or otherwise. In Portugal there are three distinct coal deposits. In the north, near Oporto, the coal is anthracite, of good quality, but often so mixed with shale as to render the working difficult. The principal mines are St. Pedro da Cora, Passal de Baisco, Covello, and Midoes and Pejao. The coal extracted from these mines is used in Oporto for cooking ranges and stoves, and the soft coal is made into *briquettes*, or patent fuel, for the same purpose. Near Busaco, at Santa Catharina, there are some coal beds of a semi-bituminous coal, but these mines are not now being worked. The principal silver and lead mines are Bracal, Coimbra, and Gondarem, but the later mine is not now working. A small amount of manganese is extracted and shipped abroad from a mine near Anadia. Iron is found distributed generally all over northern Portugal, in larger or smaller degrees. The only large deposit is at Moncorvo, about 80 miles up the River Douro. This iron is magnetic, and the supply is very large, but the distance from a sea port renders it valueless, until a railway or other means of communication enables it to be shipped at a small expense. A small amount of gold washing is done, but only in summer. There are several very good slate and marble quarries in northern Portugal. The latter, although the marble is of very fine quality, either from bad management or some other cause, do not seem to be worked with success. Slate, however, is worked in some districts most successfully. One quarry, near Vallongo, belonging to an English company, exports slabs, beds for billiard tables, and slates for roofing, both to England and Brazil. One slab, 17 feet long, from this quarry, was exhibited at the Adelaide Exhibition.—*Journal of the Society of Arts.*

FEDERATED INSTITUTION OF MINING ENGINEERS.—The annual general meeting of the Federated Institution of Mining Engineers was held this week, at the Neville Hall, Newcastle, Mr. Arthur Lopworth, Cannock Chase (the retiring President) in the chair. There was a large representative attendance, the members being received by the North of England Institute of Mining and Mechanical Engineers. Mr. W. N. Atkinson (Newcastle-upon-Tyne) was elected President for the year, and proposed a vote of thanks to Mr. Lopwith for his services. The vice-presidents elected were Messrs. W. Spencer, A. Barnes, J. B. Atkinson, G. A. Mitchell, J. Mitchell, J. Nevin, J. B. Simpson, A. L. Steavenson, W. Cochrane, G. B. Forster, J. Daglish, R. H. Cole, J. Stirk, and W. F. Clark. Mr. M. W. Brown (secretary) submitted the fifth report of the council. The institution, it was stated, was intended to further the sciences of mining, geology metallurgy, engineering, and their allied industries by the interchange of opinions and by the reading of communications from, members and others. The Federation was gradually extending, and included the Chesterfield and Midland Counties Institution of Engineers, the Midland Institute of Mining, Civil, and Mechanical Engineers, the Mining Institute of Scotland, the North of England Institute of Mining and Mechanical Engineers, the North Staffordshire Institute of Mining and Mechanical Engineers, and the South Staffordshire and East Worcestershire Institute of Mining Engineers. Since the formation, in 1889, the membership of the Federated Institution had increased from 1239 to 2190. The status of the members had been considered, and the desirability of some classification was suggested. It appeared that during the year 77 papers had been contributed, and, with discussion, were deemed of much value.—The report of the treasurer (Mr. Reginald Guthrie) showed that the finances of the institution were in a satisfactory condition.

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AT a MEETING of the Directors held this day, the following Resolution was passed, viz.:—
RESOLVED.—"That an Interim Dividend of 1s. per share, free of Income Tax, be this day declared, payable on and after the 15th day of September, 1894, to the shareholders on the register of the Company on that day, and that the Transfer Books of the Company be closed from the 10th to the 15th September, 1894, both days inclusive.

By order of the Board,
J. JAMESON TRURAN, Secretary.
No. 184, Gresham House, Old Broad Street, London,
4th September, 1894.

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Professor J. P. O'REILLY, Secretary.

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The scaffold or cradle is suspended by four ropes in double purchase, these being 5 inches in circumference, and of Bessemer steel. One end of these ropes is made fast at the surface by attachment to a heavy screw, which serves for purposes of adjustment in the event of the ropes riding unevenly on the drums. The other end passes round the wheel on the cradle and up over another wheel on the winding frame, and thence to the crab drum. Four drums are thus required on the crab engine.

The part of the rope between the scaffold and the pulley on the frame is used for a guide rope to the rider, and serves to guide the kibble from up and down to the cradle. When the kibble approaches the cradle the engineman slows up until he lifts the rider upon an indiarubber buffer seated upon the top of the socket of the winding rope. The rider is provided with a bush, through which the winding rope runs, and which also serves partially as a rest for the buffer referred to. Resting upon the cradle, where the two legs of the rider seat themselves, india-rubber buffers also surround the guide rope to minimise as far as possible the shock of the rider landing on the cradle.

The cradle, as designed by the writer and used at Newbattle Colliery, consists of a working floor and a protecting roof. Between these there is ample height for men working. The centre of the cradle contains an opening which provides space for two kibbles passing each other. This opening is fenced by sheet iron, ¼ inch thick and 6½ feet high, bolted to six upright angle bars and hangers. The floor stage is formed by a 4 by 4 inches by ½ inch mild steel angle bar turned to a true circle, supported on and fastened to the bottom framing or flooring, which is constructed of 5 by 5 inches by ⅝ inch steel angle bars. A door or hatchway is hinged to the floor, and is raised or lowered by the block and tackle fastened by shackles to the door and the framing of the scaffold. The door is recessed to allow of its closing on air boxes and pipes. Hatchway doors are also left on the other side of the cradle to permit of the brick kibble—the arrangement of which is hereafter described—being lowered if required.

The floor is covered with planking 5 inches thick. The roof is formed of 5 by 5 inches by ⅝ inch steel angle bars, covered with ⅜ inch sheet iron plates. The framing of the roof where the suspending wheels carry the whole of the cradle, is constructed of double 5 by 5 inches by ⅝ inch steel angle bars riveted together.

The bottom and top of the scaffold are connected together by four corner steel angle bars 5 by 5 inches by ⅝ inch bolted to the top and bottom framing. Four stays are placed to the four upright corner angle bars for the purpose of supporting and stiffening the top or roof framing. Two 1¼ inch tension rods are secured to the double angle bars and to the outer ring of the floor for the purpose of strengthening and carrying the floor. A sheet iron ring, formed of $\frac{7}{16}$ inch sheet iron, is bolted to the circular framing and forms a fence round the scaffold 18 inches high. The difference between the diameter of the pit and the upper side of this ring is about 1½ inch, or an opening of ¾ inch exists between the brickwork and the fence. Fending plates are bolted to the bottom of the scaffold to guide a swinging kibble through the opening in case of accident. The weight of the scaffold is about 8½ tons, and when loaded with bricks, lime, and workmen, the working load is about 20 tons.

As already described, the cradle is hung by four 5 inch ropes, in double purchase. In addition to these, another guide rope, made fast at the top, as previously described in the case of the other guides, and looped down the shaft, is provided. Upon this is hung a pulley, supporting the water tank and scaffold, with two pulsometers and suction pipes and discharge pipes into the cistern. Valves and hoggers for running the water into the water barrels are also provided. The double rope referred to is brought through the cradle, and the loose end is led on to one of two drums on the winding engine. The other drum is provided with a winding rope, and the kibble used with this rope runs with a rider and with the pump suspending rope as a guide on each side, and supplies the scaffold with bricks, lime, &c.

Both drums on the winding engine are clutched, so that when firing shots in the bottom, the pulsometer and scaffold, &c., after being disconnected from the steam pipe, may be hauled up out of danger. It may be mentioned that this arrangement of loading the water barrels proved very satisfactory and economical. No bailing was required, and after week-end stoppages the water was rapidly taken out. About 200 gallons per minute from a depth of 900 feet was at one time wound out of the pit bottom for several weeks, while sinking progressed and pumps were fixed.

The advantages which the writer has observed in the use of the cradle are as follows:—

1. It permits of quick winding with double kibbles with great safety.
2. No time is lost through the sinkers being withdrawn to wall.
3. The brickwork can be better done by skilled bricklayers and at less cost than by sinkers.
4. In forming any necessary recesses or roads off the shaft side, no delay in sinking need be incurred.
5. The suspension of a substantial structure on the shaft affords a considerable protection to the men working in the pit bottom.

With reference to the latter advantage, upon several occasions when material has dropped accidentally down the shaft, it has landed on the roof of the scaffold and caused no damage; and especially when working within a moderate distance from the bottom, the protection is of great advantage.

* From a paper read before the Federated Institute of Mining Engineers.

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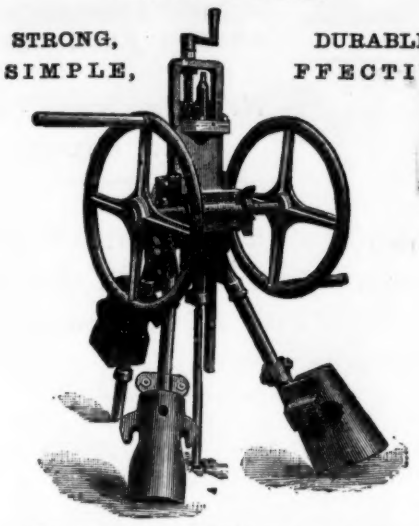

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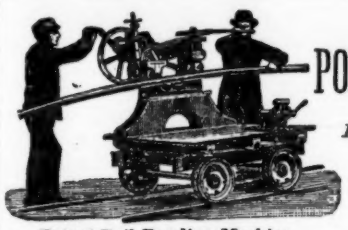

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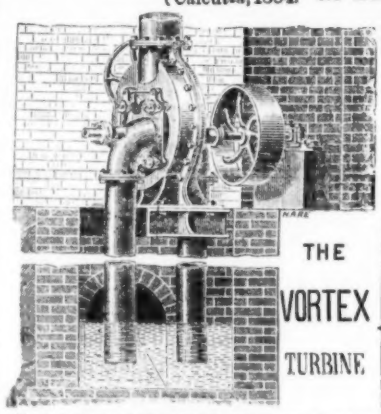

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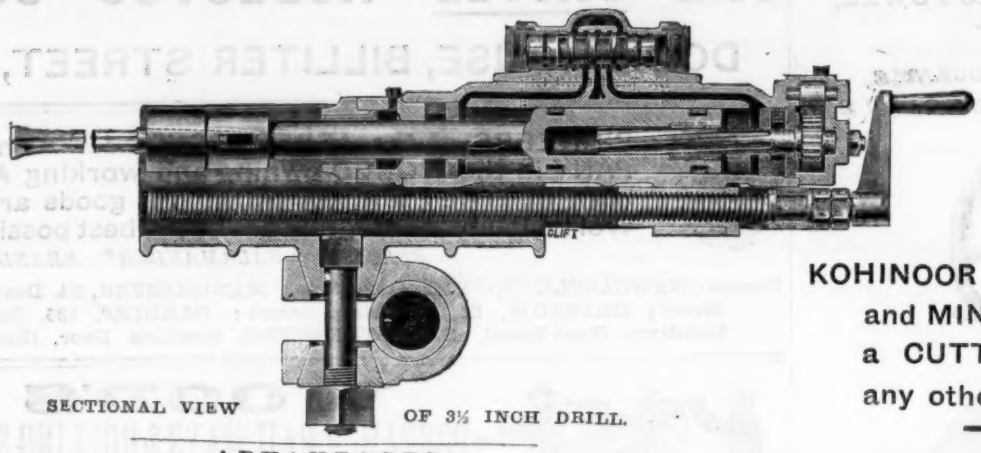

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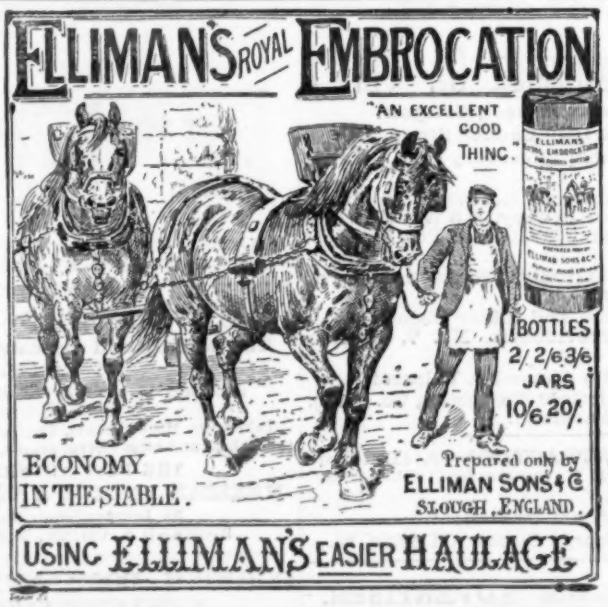
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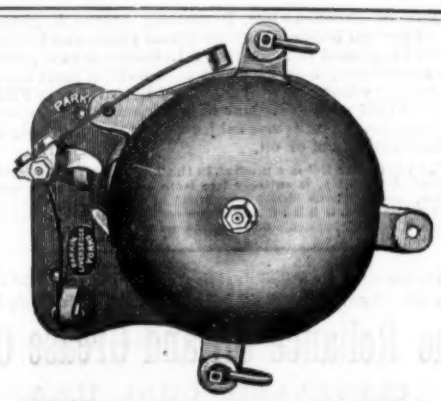

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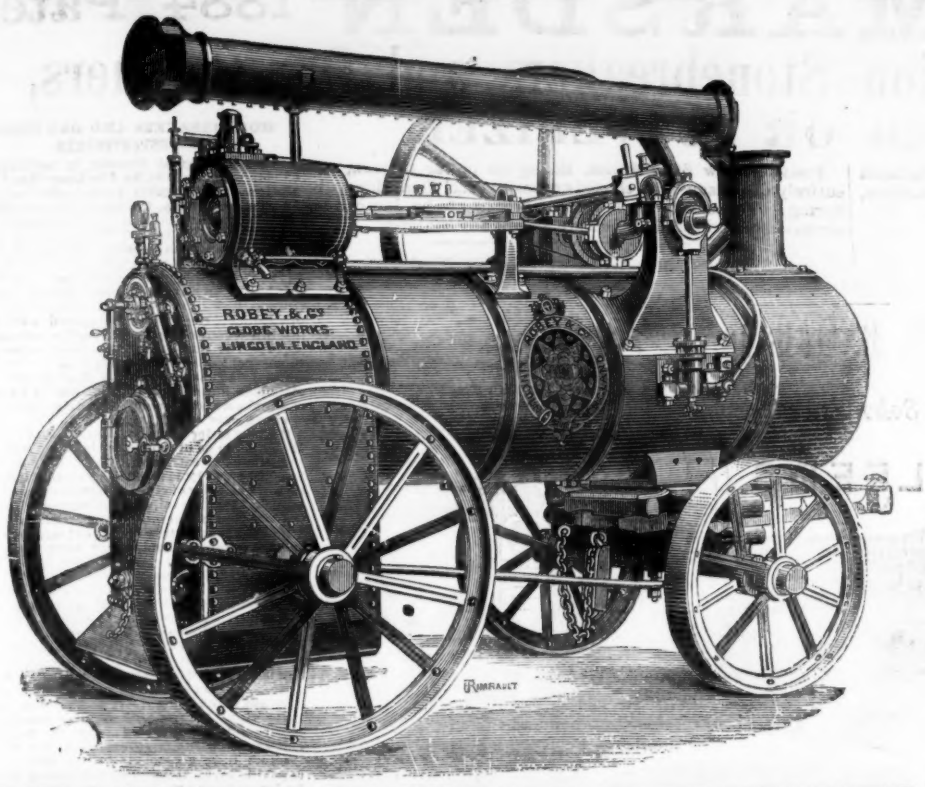

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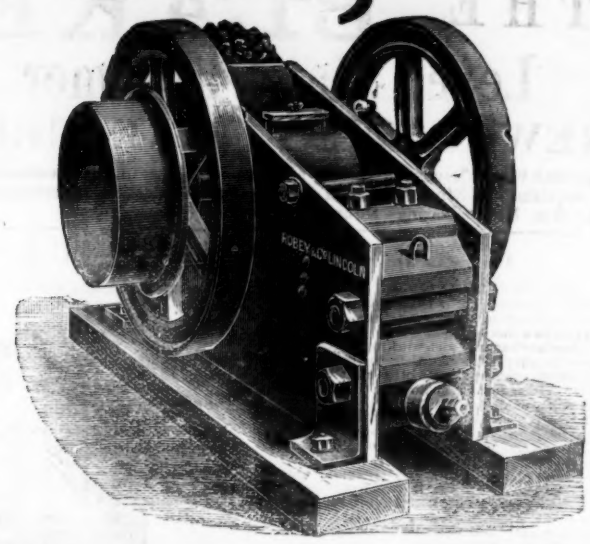

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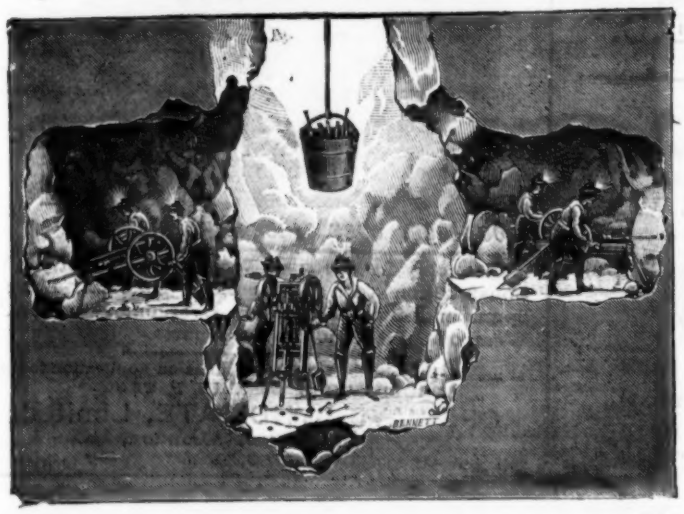

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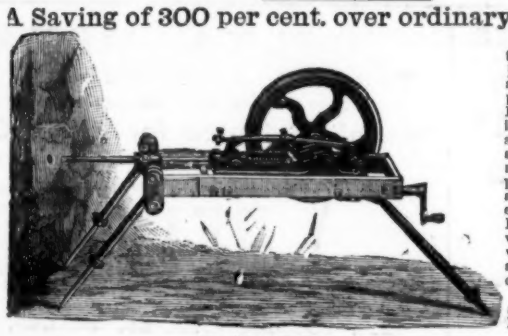

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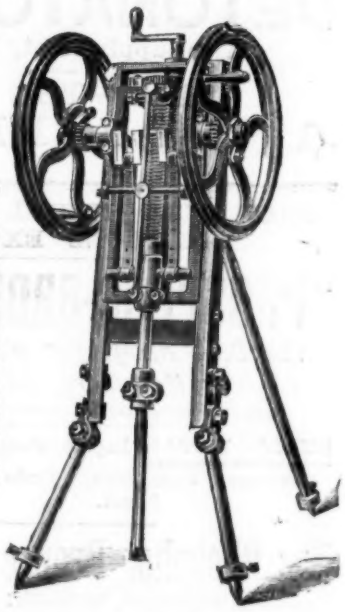

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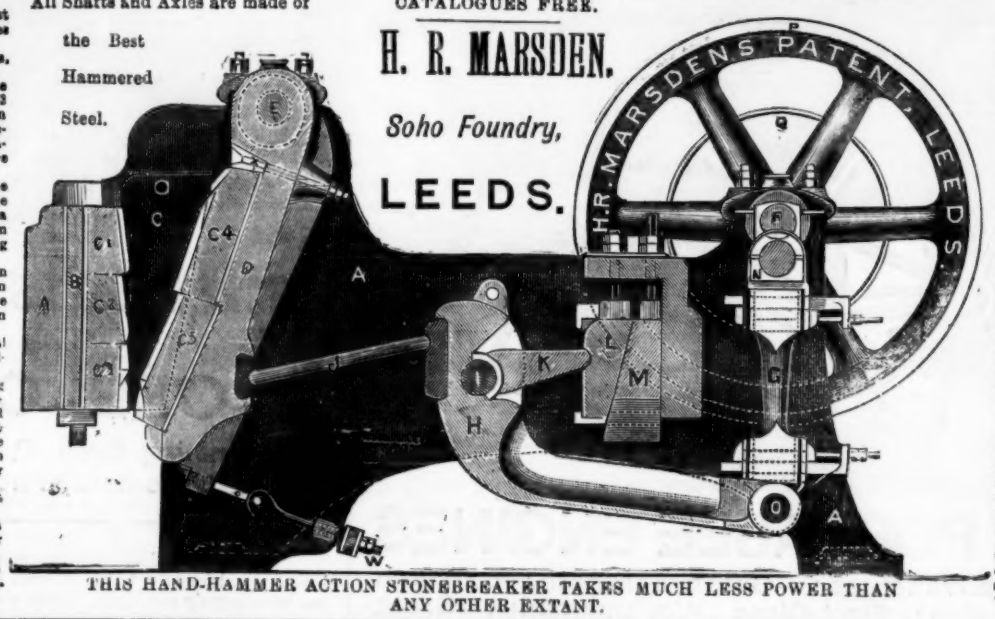

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